

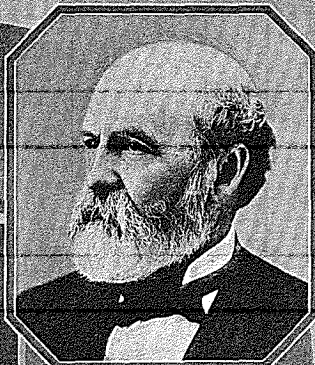
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Southern Pacific Bulletin

AUGUST, 1920



LELAND STANFORD



C.P. HUNTINGTON



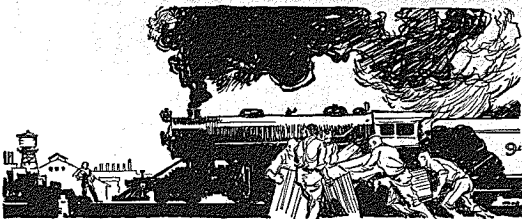
CHAS. CROCKER



MARK HOPKINS

THE
BIG FOUR

SACRAMENTO DIVISION
NUMBER



Carrying a Ton a Mile for less than a Cent

Freight rates have played a very small part in the rising cost of living.

Other causes—the waste of war, under-production, credit inflation—have added *dollars* to the cost of the necessities of life, while freight charges have added only *cents*.

The average charge for hauling a ton of freight a mile is less than a cent.

A suit of clothing that sold for \$30 before the war was carried 2,265 miles by rail from Chicago to Los Angeles for 16½ cents.

Now the freight charge is 22 cents and the suit sells for \$50.

The cost of the suit has increased *20 dollars*.

The freight on it has increased only *5½ cents*.

Other transportation charges enter into the cost of the finished article—carrying the wool to the mills and the cloth to the tailors—but these other charges amount to but a few cents more.

The \$10 pair of shoes that used to sell for \$5 goes from the New England factory to the Florida dealer for a freight charge of 5½ cents—only one cent more than the pre-war rate.

Beef pays only *two-thirds of a cent* a pound freight from Chicago to New York.

American freight rates are the lowest in the world.

Reproduced from a series of striking statements issued by the Association of Railway Executives.

The Bulletin

THE BULLETIN IS PUBLISHED MONTHLY IN THE INTEREST OF AND DISTRIBUTED FREE TO THE EMPLOYEES OF THE SOUTHERN PACIFIC COMPANY. CONTRIBUTIONS ARE INVITED AND SHOULD BE ADDRESSED TO THE EDITOR, BUREAU OF NEWS, 65 MARKET STREET, SAN FRANCISCO, CALIFORNIA.

Vol. IX.

SAN FRANCISCO, AUGUST, 1920

No. 8.

The Romance of the Sacramento Division

A remarkable story of the inception and development of the father of all divisions; the Southern Pacific's "Alice in Wonderland" trail

By J. D. BRENNAN, Superintendent of the Sacramento Division

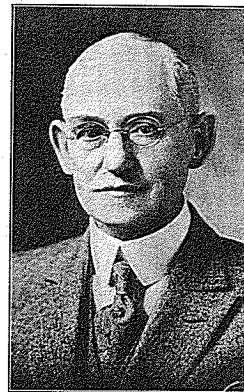
THE Sacramento Division is the nucleus of the Pacific System of the Southern Pacific Railroad and the pioneer division of railroads of the "Golden West."

It embraces in its 675 miles all of the old lines and much of the new lines of railroad that have made California famous from ocean to ocean. It is replete with historical events and romance worthy of volumes of word pictures that only an artist can supply.

The first unit of the Pacific System, twenty-two miles in length, was built in 1855-'56. It started at Sacramento and ended at Colusa and was known as the "Sacramento Valley Railroad." Today that father of California railroads is a busy section of the Placer-ville branch of the Sacramento Division and serves a rich fruit belt and a fleet of gold dredgers that dig millions of dollars of gold annually and cast up mountains of boulders that are crushed into suitable sizes for the foundation of California's unsurpassed highways, furnishing tonnage for this branch line to the extent of sixty to seventy-five cars daily.

In 1865 this branch was extended to the rich mining town of Latrobe, and in 1888 to "Hangtown" (now Placerville), whence there operated twenty-one stage coaches to the richest of the rich gold and silver mines—Comstock Lode, Virginia City, Silver City and Gold Hill.

Theodore D. Judah, chief engineer of the "Sacramento Valley Railroad," naturally gained much prominence as builder of California's first railroad and his services were eagerly sought by such men as Asa Whitney, who, in 1846, conceived the idea of a trans-continental railroad, and Dr. D. W. Strong of Dutch Flat. In 1859, after making a survey for a line over the Sierra Mountains (at his own expense), Judah was sent to Washington, D. C., to present to the Thirty-sixth Congress a proposition for the government to assist in building the "Pacific Railroad," as the dreamers



J. D. Brennan, Superintendent of the Sacramento Division.

Once government aid was obtained, Congress, no different then than now, gave painstaking thoughts to the subject of a standard gauge for the railroad, and, not being willing to accept the judgment of young Judah on that momentous question, called upon Abraham Lincoln to decide the point. Mr. Lincoln reported at great length that the gauge should be five feet. Congress, true to form, adopted a gauge of four feet eight and one-half inches.

Directly the act of 1862 became a law, the hardy pioneers of California lost no time and, on January 8, 1863, Leland Stanford upturned the first shovel of dirt at the foot of "K" street, Sacramento, in the real making of California.

Thus, then, was started that masterpiece of railroad, that "Alice in Wonderland" trail of the iron horse! The Sacramento Division over the mighty Sierra, whose problems try the soul of man; whose anxieties prematurely whiten the hairs of men of iron; whose terrors stilled forever the heart of one superintendent as he emerged from his office car in the snowsheds to view the scene of a holocaust, which probably he could not have explained to an, exacting superior officer who had never passed through a fire in the Sierra Nevada snowsheds and possibly did not understand the human element that enters eternally into the life of the "Truckee District." Let us mercifully pass by the case of one other superintendent bereft of reason by the baffling problems that confronted him, in the days when but few trains used the iron pathway of today—the same that the dauntless young Judah surveyed—where today the traffic has increased more than 100 per cent.

The Land of Old; the Land of Gold!

Let us continue our story through the country of Bret Harte and Mark Twain; the country of gold and ro-

of that day called it. History here records a failure.

In 1860 young Judah was introduced by Dr. Strong of Dutch Flat to these stalwarts of pioneer days: Leland Stanford, Mark Hopkins, E. B. Crocker, Charles Crocker, and C. P. Huntington, who incorporated the Central Pacific Railroad January 28, 1861, capitalized at \$8,500,000, with a subscription list of but \$148,000.

Again the young civil engineer, Theodore D. Judah, visited the Congress at Washington, and to him is credited the work of convincing Congress that government aid was necessary for the tremendous task of going "over the top" of the majestic Sierra, suspended amid storm clouds and surrounded by plangent cataracts.

mance; the country as glorious as a June day.

As in most vast undertakings, the originator failed to realize his vision, and Theodore D. Judah died in 1863 from Panama fever at the age of 37 years. S. S. Montague was appointed chief engineer; however, the actual location made by Mr. Judah was followed to Colfax, or Lower Illinois-town Gap, Mr. Montague making a change in the original survey in the vicinity of Long Ravine, again following Mr. Judah's alignment from Cape Horn to Alta, the line from Alta to Summit being located by L. M. Clement.

The first forty miles involved expenditures in excess of the original estimate and the builders found themselves well into Bloomer Cut, between Zeta and Auburn, and up against the hardest conglomerate material encountered up to that time (1864). The stockholders became discouraged on account of the slow progress; the Public proclaimed the advent of the "Dutch Flat Swindle," Dutch Flat being at that time a roaring camp of gold miners, and, according to rumor, the temporary eastern terminus of the railroad.

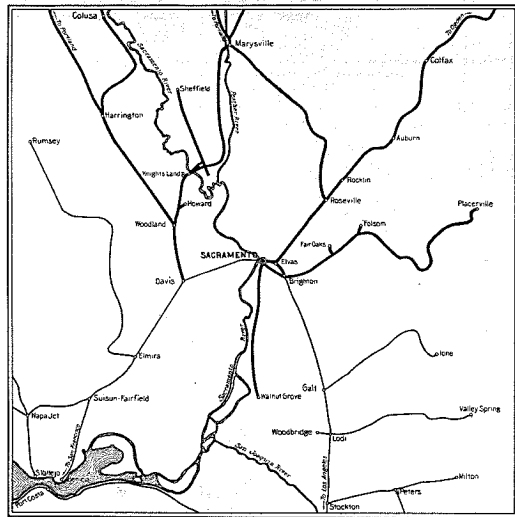
Gunpowder and Chinamen were the only weapons of combat the road builders had with which to fight the earth and stone through which they had to pass, laid in their path centuries ago by the Creator. Dynamite was yet to be discovered, but, when obtained, proved to be the "Open Sesame." Finally Dutch Flat was reached and the road continued eastward.

At Cape Horn, Chinamen were let down the steep bluffs in baskets to the grade line, where they worked against the solid rock and shale, dangling on ropes from a hundred feet above, with a gap of 1200 feet below into the American River Canyon.

As the work extended easterly from Cape Horn it became, in a construction way, heavier with every mile until, in 1867, they reached the summit of the Sierras and looked with joy over Donner Lake, where the Donner party perished in their ill-fated attempt to cross the Sierras in 1846. The work ahead, while heavy in portions, did not present the difficulties they had passed.

From a report of the chief engineer in 1867, after surmounting the construction difficulties, he faced the snow problem of the Truckee Pass, where more snow falls than in any place in the United States except in Yukon Pass. We find Mr. Montague concerned with protecting the line by snowsheds. This was the commencement of the "Longest House in the World," which today constitutes a single and double track snowshed 156,259 feet in length, twenty-nine and six-tenth miles, topping the Sierra between Blue Canyon and Truckee, and often called "The House Without End." The board measure approx-

"THE HUB OF THE WHEEL"



The above map shows how the Sacramento Division acts as a receiving and distributing center for traffic radiating in four directions.

imates 100,000,000 board feet and is of exceptionally heavy construction to withstand the great snowfall, recorded during one season as sixty-five and one-quarter feet.

The Hub of the Wheel.

The Sacramento Division is the hub of the wheel of the Pacific System, at the base of the northern district. It is fed from the west and bay region by the Western Division and over it is transported east, west, north and south all tonnage routed by way of the Shasta, Salt Lake and Stockton Divisions.

The division has a total mileage of 675 miles, the Valley lines stretch from Sacramento northerly paralleling the Sacramento River, tapping the centers of the east and west side of the great fertile valley as far as Tehama, with branch lines reaching from these main lines into the important foothill districts adjacent thereto. These Valley lines include 421 miles of track and feed one of the richest districts in the State of California, adjacent to the Sacramento River and its outlying watershed between the Coast Range on the west and the Sierras on the east.

These lines traverse many counties—Sacramento, Yolo, Colusa, Sutter, Yuba, Butte, Glenn and Tehama—which are famed for their productive-

ness as regards lumber, grain, rice, and alfalfa, with their citrus fruit belts and their olive groves; their great bean districts throughout the reclaimed districts adjacent to the rivers, and their fruits, particularly the peach, pear, prune and grape belt in the central counties; likewise their abundant production of walnuts and almonds.

The main line from Sacramento to Sparks, 156 miles in length, along the original Central Pacific, 115 miles of which is double track, traverses Placer and Nevada Counties on the California slope of the Sierras into Washoe County in Nevada. This line, running northeast between the Yuba and American Rivers, feeds the scenic Sierra foothill district between Blue Canyon and Sacramento, a fruit belt producing the greatest quantity and variety of fruits anywhere in California.

The main fruit shipping points of this district are Loomis, Penryn, Newcastle, Auburn, Bowman, Colfax. It is over this portion of the division that all transcontinental east and west tonnage is moved through the central gateway of the West.

Yet another seventy-five miles of tracks surrounds the city of Sacramento and leads easterly to Placerville, tapping similar fruit districts in the same foothill zone; the rock quarries of Folsom and Fair Oaks and the

timber areas and mineral wealth of El Dorado and Amador counties.

The fruit production of the Valley counties and the fruit belt adjacent to Sacramento has made the Capital City the largest fruit distributing center of the world.

It was near Coloma, a short distance above Placerville, that gold was first discovered in California by Marshall, causing the famous gold rush of 1849. Gold and other minerals are still produced in large quantities in this district, and only this month a vein of gold of fabulous wealth was struck by a former railroad man. Where gold has been worked out, orchards are today producing greater wealth.

The Operating Problems.

The physical and climatic conditions of the division create operating problems in variety. Lumber trains originating in Stirling City, at an elevation of 3520 feet above sea level, drop down the thirty miles to Colfax, the three and one-half per cent grade and around curves exceeding fifteen degrees, requiring skill and exactness and perfect adherence to rules. It is on this line where the continuous braking resistance causes the slivers from heated brake shoes to fire the trestles and ties. A gravity car patrolman follows each train with a fire extinguisher and water barrels, extinguishing many fires set by the trains descending the grade.

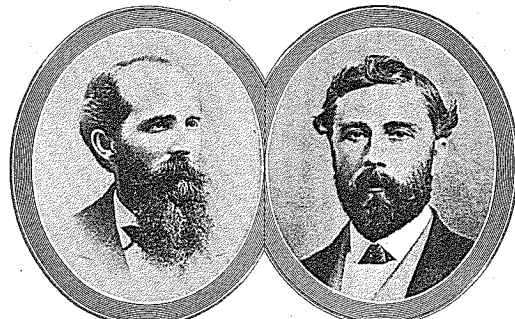
On the Placerville line, the operated maximum grade is 2.2 per cent for thirty miles of the distance, over which are transported lumber, ores, livestock, fruits and hundreds of thousands tons of rock.

From the Sacramento Southern Line comes the asparagus, celery, deciduous fruits, vegetables, vegetable seed and the many products of the delta region. This is where we compete with river transportation and offer a service which results in our enjoying the bulk of the business moving to transcontinental points.

From the east side and west side Valley lines we receive the Oregon products, particularly lumber, and the enormous tonnage originating throughout Superior California. These lines, with their long tangents and easy gradient, have made possible our solution of an economical operating problem through the medium of the ninety-nine-car freight train, with a maximum tonnage of 10,000 Ms. with one locomotive, for 107 miles, between Gerber and Roseville. The exactness required to start and stop and economically operate a ninety-nine-car train is a source of much pride to the division.

With a monthly output of 90,000 cars, Roseville, the largest freight terminal on the coast, is the real haven for box cars and other kinds of cars typical of railroads. It is the home of the freight Mallet, a mechanical device combining in one unit the power

VISION AND REALIZATION



The photo at the right is of Theodore D. Judah, the engineer who visioned the first railroad over the Sierra, and who died before seeing his dream come true. At the left is S. S. Montague, who carried to successful conclusion Mr. Judah's plans.

formerly furnished by many engines. One of these monsters, with its 437,000 pounds, outweighs by 50 per cent the entire equipment of eight engines with which the Central Pacific Railway started operations. Roseville is the junction for the north, south, east and west and it is from this point we handle with Mallet engines the transcontinental tonnage over the old, historic line, topping the scenic Sierras at Summit and dropping down to the Nevada plateau at Sparks.

This line takes us over double track, with block signals, from Sacramento to Rocklin, at the base of the foothills of the Sierras. Thence the eastward and westward lines diverge, the eastward twenty-eight miles, Rocklin to Colfax, through eighteen single and double track tunnels, constructed by William Hood, chief engineer during 1907 and 1912. The westward track still follows the old Central Pacific alignment, the two lines occupying the same roadbed again at Colfax. The tracks, in their entanglements through the foothill country, create both right and left hand operation, where the eastward track, with its one and one-half per cent compensated grade crosses over and under the original line.

The increase of traffic, carrying with it a continuous increase in the size of cars and in the weight and power of the locomotives, has had to be met by a like progress in the standard of track and structures, until today

this section of the original transcontinental railway is a leader of American railways. To maintain this standard there has been developed a corps of workmen trained in careful and accurate maintenance of track. Water must be collected in the mountain ravines and stored in ever increasing quantities that there may be no delay to the never ending flow of traffic. Climatic changes require particular care in keeping to the highest efficiency the staff system and signals which make for safety of operation.

We have dwelt upon everyday operation; however, every day is different. Our shed renewals require the reconstruction of over a mile a year; all track work must be done during the summer, making an interesting problem in railway maintenance.

It is likewise so with train operation, for the moment the snow commences to fly the flangers, the rotaries and snow-fighting equipment are a daily and nightly occurrence on that portion of the line outside the sheds, involving many miles of double and single track, and no sooner is the winter over than fire trains are put in operation at four intermittent points throughout the shed territory to protect the investment in this great structure.

Red Mountain, the signal peak, located 7860 feet above sea level, is situated with relation to the shed territory, that the day or night observer may immediately locate and give the

(Continued on page 22.)

VETERAN ENGINEER RECALLS OLD DAYS WITH PLEASURE.

The C. P. Huntington, one of the first locomotives used by the old Central Pacific, is exhibited near the Southern Pacific passenger station at Sacramento. Thousands of travelers have seen the old engine and marveled at the changes that a half century have wrought in railroad equipment.

A frequent visitor to the spot and one who feels more at home than most of those who look upon the old wood-burner is Mr. Harry L. Stevenson, veteran engineer of Oakland. For it was on the C. P. Huntington that he began his railroad experience more than fifty years ago.

Mr. Stevenson entered the service of the old Central Pacific on August 6, 1866, as a machinist in the Sacramento shops. That day the regular switching engineer was called to relieve a main-line engineer who had been taken ill at Alta. Mr. Stevenson was pressed into service to do the yard switching and soon became a regular member of the train crews.

When he retired eight years ago he was pulling the throttle on one of the latest type Southern Pacific passenger engines on the Overland Limited between Oakland and Sacramento. During his long years of service he had watched the Central Pacific develop into the Southern Pacific and the Pacific Coast become the wonderland for agricultural and industrial activity.

The old C. P. Huntington not only performed all of the switching in the yards when Mr. Stevenson first entered the service, but was used on many trips hauling rock and timbers for construction work on the main line. It was one of the sixteen locomotives operated by the Central Pacific in the early days.

"I always recall the early days with pleasure," Engineer Stevenson said recently when telling of his experiences on the Sacramento Division. "We made the most of what we had in with way of equipment and put up with the hardships that were characteristic of the times. A half century of railroad history in California is one of the romances of modern industry, and I am thankful for the opportunity I have had to share in it."

FERRYBOAT OAKLAND IS BACK IN SERVICE.

The Southern Pacific Company's ferryboat Oakland was replaced in regular transbay service last month, after having been rebuilt at a cost of approximately \$290,000. The Oakland went into drydock at the Southern Pacific shipyards on October 5, 1918, and since then has been thoroughly overhauled, repaired and refitted for passenger service. The Oakland will now seat 1650 passengers and embodies all modern improvements. The Newark will soon be taken out of regular service and rebuilt like the Oakland.

Expenses Gain Upon Revenues

Annual report reflects disproportionate increase and fall in net despite huge gross

The thirty-sixth annual report of the Southern Pacific Company to its 39,460 stockholders, as given by Julius Kruttschnitt, chairman of the executive committee, for the year ended December 31, 1919, was made public recently by President Wm. Sproule and bears eloquent testimony to the shrinkage of the railroad dollar.

With the largest railway operating revenues in the company's history, amounting to over \$239,000,000, an increase of \$18,000,000 over 1918, railway operating expenses soared to almost \$187,000,000, an increase of over \$24,000,000. Net revenue from railway operations fell off six millions of dollars and the Government failed by over four million dollars to equal the standard return guaranteed the company. Following is a summary of operating revenues, operating expenses and net revenue from railway operations for years 1919 and 1918 under Federal control, also, for comparative purposes, for the year 1917, the last of private operation preceding Government control:

	1919	1918	1917
Operating Revenues.....	\$239,057,272.35	\$221,611,206.21	\$191,971,489.54
Operating Expenses.....	186,927,492.51	162,722,371.84	120,001,822.82
Net Rev. from Operations.....	62,729,780.84	58,888,834.37	72,269,666.72
Op. Ratio, Percent.....	75.90	73.43	62.18

The above table illustrates the disproportionate increase in expenses compared with revenues and the fall in net despite higher gross. In 1919 operating expenses increased 14.4 per cent, while there was left out of each dollar of revenue only 22 cents, compared with 38 cents remaining in the last year previous to Federal control.

Comparing 1919 with 1918 the increase in operating revenue of \$18,046,066.14, or 8.14 per cent, resulted principally from the fact that passenger and freight rates were not increased until June of 1918 and the beneficial effect of this increase was felt in only half of that year.

There was a decrease of 6.52 per cent in ton-miles of revenue freight, attributed chiefly to the diversion of traffic from the company's lines during the whole of last year, which was practiced during only a part of the preceding year. This diversion of traffic during the operation of the company's lines by the Government resulted from the closing of traffic agencies, the disturbance of relationship of both rates and service and arbitrary routing of freight by Governmental agencies.

The revenue passengers carried one mile increased 7.28 per cent, which partially offset the decrease in the volume of freight business and was due to the transportation of discharged and furloughed soldiers and to the general prosperity of the people of the country.

The increase of \$24,205,110.67, or 14.88 per cent, in operating expenses, compared with a decrease of 5.71 per cent in train mileage, was due principally to additional increases in wages and prices of material, the effect of these increases over previous year being:

Increase wages.....	\$11,420,000
Increase in price of fuel.....	2,534,500
Increase in price of other materials.....	4,970,000
Total increase in wages and material prices.....	\$18,924,500

The annual report showed increases in 1918 over 1917 from these causes of \$34,338,000, the total increase in wages and material prices in the two years of Federal control, therefore, being \$53,171,000, increasing operating expenses substantially 40 per cent.

There was an increase of \$5,371,611 in operating expenses in 1919 over 1918 not accounted for by increased wages or prices.

To replace equipment vacated and to provide for increased requirements the company has placed orders with outside concerns for 42 locomotives, 50 passenger train cars, 750 freight train cars and 130 electric cars, and is building at company shops 30 locomotives and 4065 freight train cars. Orders have been placed also for three ocean-going freight ships (El Estero, El Isale and El Lago) of 7825 tons displacement each and one ocean-going tank steamer (Tamilhua) of 22,900 tons displacement. The cost of this new rolling stock and floating equipment will be approximately \$29,700,000, all of which, except the cost of the steamers, it is proposed to provide by means of an equipment trust.

CO-OPERATION NEEDED.

The railroad managements are making every effort to cope with the abnormal conditions that have confronted them in connection with the transition from government to private management, but it is now well recognized that in spite of the utmost efforts that can be put forth they are bound to be great difficulties this fall in handling the traffic offered and a situation which will require the most hearty co-operation on the part of all concerned if disaster to the best interests of the country is to be avoided.—American Railroads.

How the S. P. is Seeking to Improve its Service

Best use of existing equipment being made, and millions of dollars being spent for new rolling stock and facilities

By J. H. DYER, General Manager

EVERY one in the United States engaged in productive industry is vitally interested at this time in the question of what is being done by American railroads to improve transportation service. So far as the Southern Pacific is concerned the question may be answered in the following manner:

1. The Southern Pacific is endeavoring to secure the most service possible out of its existing facilities and equipment.

2. It is spending millions of dollars for new equipment and endeavoring to secure delivery at the earliest moment.

When the Southern Pacific Company regained control of its property on March 1 it faced, in common with all other roads, abnormal operating conditions, which may be summarized as follows:

1. Equipment shortage due to war restrictions on labor and materials.

2. Deteriorated equipment due to abnormal wear and service and wide dispersion of cars, reducing repair work to a minimum.

3. Unusual dislocation of equipment, with heavy concentration in the East.

4. Strikes.

The Southern Pacific immediately began a vigorous campaign to secure heavier loading and prompt release of existing equipment, recognizing that if it could induce shippers to make one car do the work of two the situation would be at once improved. Co-operating with the Commission on Car Service and the Interstate Commerce Commission, through terminal and advisory committees and working hand in hand with such public-spirited bodies as the Good Railway Service Association of California, the Southern Pacific, during the month of May, 1920, had the satisfaction of seeing the average car-load on its lines increased from 24 to 26.2 tons, a gain of 2.2 tons per car, effecting a saving of 1572 cars to the public at a time when cars were the crying need of the hour. The same month, exclusive of oil tank cars, which are uniformly loaded to capacity, 62,210 cars were loaded at Southern Pacific stations, whereas, had they been loaded the same as of May last year, 63,782 cars would have been required. The volume of commercial freight handled on the Pacific system in May was 1,750,911 tons, compared with 1,522,205 tons the same month of last year—an increase of 228,706 tons, or more than 15 per cent.



J. H. DYER, General Manager

15 per cent. Gross ton miles in May, 1920, amounted to 1,931,740,000, compared with 1,702,347,000 in May of last year—an increase of 229,393,000 gross tons moved, or more than 13.4 per cent. Thus, despite many handicaps, the Southern Pacific has materially increased its service to the public.

In June the average carload increased from 23.2 tons per car to 24.9 tons, compared with the same month of 1919, but as compared with the showing for May indicates that efforts should be redoubled to secure still better use of equipment.

The volume of commercial freight loaded during the month of June was 1,910,466 tons, compared with 1,693,447 tons loaded in June, 1919, an increase of 217,019 tons. Gross ton miles in June, 1920, amount to 2,020,933,000, compared with 1,828,331,000 in June, 1919, an increase in gross ton miles moved one mile of 192,602,000, or 10.5 per cent.

Additional facilities have been furnished shippers by the re-opening of district freight and passenger agencies, closed since the beginning of Federal control, and by the restoration of expert solicitors, who are calling on shippers and aiding them materially in the solution of their problems.

To meet such emergencies as the heavy cantaloupe movement from the Imperial Valley, additional refrigerator equipment has been secured from other lines at great expense and moved in special trains to California to re-

inforce the thousands of cars owned by the Pacific Fruit Express.

In the meantime, as fast as our own equipment could be located and returned to our lines, it has been repaired at our shops at Sacramento, Los Angeles, Bayshore and other points, where every effort was made and is still being made to keep all rolling stock, cars and locomotives, in first-class condition.

The subject of amplifying and improving passenger service is now receiving the earnest study and consideration of the Passenger Traffic Department, and it is hoped that by fall it will be possible to make important announcements in this respect. Already local service in Oregon has been improved and helpful time-table changes made on the Coast, Western, Sacramento and Salt Lake Divisions.

A new daylight service has been provided to and from Lake Tahoe and the High Sierra, a new local train established between Sacramento and Colfax and trains 58 and 29 extended beyond San Jose to Salinas. Solicitation has been actively resumed, off-line agencies re-opened through the East and a representative of the company is now in Europe studying immigration questions and arranging to reorganize all Southern Pacific offices closed by the government.

New folders setting forth information of value to tourists, etc., have been made available to our patrons.

As evidence of the success which has attended the efforts of the Passenger Department to secure the best use of available equipment reference need only be made to the manner in which the Southern Pacific handled at one and the same time during the last weeks in June and the first week in July, the Shriners' Convention at Portland, the National Democratic Convention at San Francisco and the heaviest summer vacation movement ever experienced. This was accomplished without mishap and to the satisfaction of all.

Returning to the important subject of new equipment, the annual report of the Southern Pacific shows that to replace equipment vacated and to provide for increased requirements the company has placed orders with outside concerns for forty-two locomotives, fifty passenger train cars, 750 freight train cars and 130 electric cars, and is building at company's shops thirty locomotives and 4065 freight train cars. Orders have been placed

also for three ocean going freight steamers of 725 tons displacement each and one ocean-going tank steamer of 22,900 tons displacement. The cost of this new rolling stock and floating equipment will be approximately \$29,700,000, all of which is exclusive of the Southern Pacific's one-half share of 4,000 refrigerator cars being built for the Pacific Fruit Express at a cost of approximately \$16,000,000.

Finally, the Southern Pacific is striving by increased efficiency in its personnel to merit the continued support and good will of its many patrons.

SOUTHERN PACIFIC ERECTING \$1,500,000 STRUCTURE.

The Southern Pacific Company's new \$1,500,000 building to be occupied by several large San Francisco wholesale grocery firms is now under construction in the block bounded by Third, Fourth, Channel and Berry streets. The new home of the grocers is to be a six-story structure of steel and reinforced concrete, flat slab type. It will have water, rail and motor transportation facilities, elevators, chutes and conveyers especially designed for the wholesale grocery business and will in every respect be the most modern type of building constructed anywhere in the United States for the trade.

1920 R. A. O. A. SYNOPSIS.

The Bulletin has received a copy of the 1920 synopsis of the Railway Accounting Officers' Association. This volume is a codification of the recommendations adopted by the association relating to freight, passenger and disbursement accounting brought up to date. The first issue of the synopsis came out early in the life of the association, when the necessity for a record of standard practices was first recognized, and it has been re-issued from time to time as necessary to include accrued changes and additions. It is a convenient reference book for the use of all accounting officers and employees in connection with their methods for taking care of accounting work.

M. P. EMPLOYEES PICNIC AT CAPITOLA.

Employees of the General Office Motive Power Department and their friends to the number of about one hundred, enjoyed a pleasant outing and picnic not long ago at Capitola. Manager G. E. Hebard of the dance pavilion extended the courtesies of his establishment to the visitors and saw that everyone had a good time. Employees of the Motive Power Department furnished the music. The management of the Capitola Company likewise extended the privileges of the grove and other facilities, demonstrating the attractiveness of the resort for pleasure seekers and weekend visits.

Imperial Valley Crop Record

The 1920 yield will bring \$75,000,000 to growers, says Sparks

A \$75,000,000 crop is predicted for the Imperial Valley this season by I. T. Sparks, district freight and passenger agent at El Centro, Cal.

Mr. Sparks is considered an expert on agricultural conditions in the western section of Southern California, and at a recent meeting of the El Centro Chamber of Commerce presented facts and figures on which his forecast is based.

"There are 548,984 acres under cultivation in the Imperial Valley at this time and 413,984 acres of this total are in California, the other 135,000 acres are across the Mexican border," Mr. Sparks said. "The Mexican acreage is all in cotton."

"Alfalfa is the leading crop with 108,762 acres; cotton is next in the California section of the valley with 97,500 acres; barley with 66,800 acres comes next and milo maize with 48,000 acres is fourth in importance. Other leaders are cantaloupes, lettuce, wheat, vegetables, watermelons and asparagus."

"Nearly 23,000 dairy cows are owned by Imperial Valley farmers. There are 32,210 steers on feed and 145,000 sheep; 29,000 hogs, 10,600 dozen poultry and 17,000 bee stands help to enrich those who make their home in a region which a few years ago was a barren desert."

"Apricot, fig, olive, pear, plum, lemon, orange, grapefruit and date palm trees to the number of 108,786 are bearing. Grapefruit is the present leader in the valley with apricot and date palm next in importance."

"The steady growth of the Imperial Valley in wealth and prosperity is shown by the assessed valuation of all property. This total for 1919 was \$76,351,481, and as the assessed valuation is based on 40 per cent of the actual value it gives the 1919 value approximately \$195,878,702. A substantial increase in the total value will be shown this year."

"The value of the 1920 cantaloupe crop is estimated at \$10,000,000, and 1200 crates of watermelons were shipped out of the valley this season."

"Coachella Valley is also making rapid development. The steady growth of both these agricultural districts will soon bring them together. There are now 6500 registered Deglet Noor date palms in Coachella Valley and 10,000 unregistered seedlings, which last year produced seventy tons of dates. This total, it is estimated, will be more than doubled this season."

"The onion crop in Coachella Valley is becoming one of the leaders, and although this is only the third season 2700 acres are devoted to

onions and approximately 877,500 crates were produced this season."

"The early table grape is rapidly becoming an important crop and 5000 new acres were planted this season to Thompson Seedless, Malagas and Persian table grapes. In the future 20,000 acres will be given over to early table grapes in the Imperial Valley."

"That education is keeping pace with the agricultural development is shown by the increase in the total enrollment of students in the Imperial county schools. Twelve thousand boys and girls attended school last term. This is an increase of 108 per cent compared with five years ago. High school property and improvements are valued at \$647,650."

PORTLAND DIVISION NOTES.

Mr. B. D. Van Court, chief rate and tariff clerk in the general freight department at Portland, has been appointed assistant agent at the Park Street depot. Mr. Van Court assumed his duties July 1 and succeeded Mr. A. A. Partello, who was transferred to Sacramento. Mr. Van Court has been in the Southern Pacific service for ten years.

A Southern Pacific picnic for Portland Division employees that promises to become an annual affair was held on the Fourth of July at Albany, Ore. Thousands of Southern Pacific men and their families enjoyed a splendid program which was arranged by the shopmen, carmen and maintenance of way, as well as two water service men on the division. Superintendent A. T. Mercer and his family were the officials from Portland made the trip to Albany and spent several hours mixing with the crowds and otherwise enjoying the celebration. The railroad men were congratulated on the success of the picnic and the largest number of visitors Albany has welcomed in years were attracted by the celebration.

PRODUCTION SETTING A FAST PACE.

The railroads are hauling considerably more traffic this year than last year, yet there is an increasing car shortage. This is produced, not by failure of the railroads to increase their capacity, but by their inability to increase that capacity rapidly and greatly enough to match the greater change in the production and distribution of commodities.—American Railroads.

Record Passenger Traffic; How It was Handled

Exposition traffic dwarfed by combined rush of Mystic Shriners, Democratic delegates and summer vacationists. The Southern Pacific meets the test

SOUTHERN PACIFIC service has just emerged triumphantly from what was perhaps its most severe test, and it seems proper that all our employees should understand just what that test was and how it was met.

Three factors combined to bring about during the period from June 19 to July 10, 1920, the heaviest volume of passenger traffic ever experienced on the Pacific system, not even excepting the Panama-Pacific Exposition of 1915, nor the height of the troop movement during the war.

These factors were an exceptionally heavy summer vacation and tourist movement, reaching a climax during the holiday period over July Fourth, the Mystic Shrine Convention and Rose Carnival at Portland and the National Democratic Convention at San Francisco. Under the most favorable conditions such a concentration of travel would have presented its difficulties from an operating standpoint, but the Southern Pacific at this time, in common with other roads, faced a shortage of equipment due to circumstances over which it had no control, and problems, moreover, arising from the period of transition from Government administration to its own policies.

That officials and employees were able to rise to the situation and handle this extraordinary movement without mishap or complaint and to the evident satisfaction of people who came from every State in the Union is a matter that reflects credit on all concerned and is fully in keeping with Southern Pacific traditions.

It may be of interest to our readers to know something of the details of how this movement was mapped out in advance and the entire organization of the Southern Pacific called on to meet the test.

When it became certain that the Mystic Shrine Convention at Portland and the Democratic National Convention at San Francisco would be held so closely together that visitors to the former would undoubtedly move on San Francisco from the North before the latter gathering had time to disperse and that both tides of travel would meet the peak of the summer exodus, staff meetings were called on the Portland, Shasta, Western and Coast Divisions, and every one, figuratively speaking, rolled up his

shirt sleeves and prepared for the deluge.

Division Problems.

Each division had its own peculiar problems to solve. For example, the Shasta Division, as was ably explained by Superintendent Fitzgerald in the July number of the Bulletin, is a single track mountain division, with a 3.3 grade over the Siskiyou, the road bed hewn out of the solid mountain side. Yet this division was called upon to handle over fifty special trains in addition to the regular movement in a period of a little over two days' time.

The westward movement particularly, involving a total of thirty-five trains of 377 cars, required a total of 128 engine movements to handle between Ashland and Dunsmuir. On this division there are a total of 116 engines, including all classes of power. It was therefore necessary to assemble every possible engine and work in conjunction with the Portland Division in an interchange of power. By spacing trains twenty-five minutes apart out of Ashland, moving helpers without delay, meeting a train at each siding and similarly handling the east-bound trains the situation was met.

Assistant train-masters, extra inspectors and skilled mechanics guarded against confusion, delay or mishap at all inspection points. As the cars composing these trains were from various roads all over the country and retainers were not as accessible to trainmen as on our regular equipment, arrangements were made to stop trains for a few minutes at inspection points on the heavy grades to insure against overhauling and afford additional inspection.

Light snowfalls during the past two or three years, and especially last winter, caused more or less of a water shortage at various points. Regular water stations could not supply such a large number of trains running closely together without the necessity of delays to replenish tanks.

Therefore a special chart was prepared showing just where each train would stop, alternating at the various tanks, and each engineer was advised where he should take water.

In the manner the "Fleet" passed without a minute's delay on account of water shortage, and when the last train passed reports from all water service men showed tanks at least half filled.

Showing the co-operation of employees, a slight incident occurred on

one of the westward trains just after passing Weed on a 2.2 per cent ascending grade. The reverse lever on the engine broke off below the quadrant latch. The assistant road foreman of engines, who was on the engine at the time, held the reverse lever in place with a monkey wrench and alternately with the engineer in this maneuver until the train had been brought into Dunsmuir exactly on time.

Arrangements at Portland.

Similarly the Portland Division found itself on June 20 facing an unprecedented influx of trains. There was a total of sixty-four special trains arriving in Portland on all roads during the period mentioned. These trains comprised 325 Pullman standards, tourists and foreign sleepers. Temporary tracks were constructed in the North Park Blocks to take care of the three trains from Philadelphia and other trains were taken care of by parking in the wholesale district. Not alone did the Southern Pacific Portland Division handle much of this movement, but our inter-urban trains got the full brunt of local travel.

From June 18 until after the last train had left the division supervising officers were on duty day and night.

On the Western and Coast Divisions the duty of providing terminal accommodations at Oakland Pier and at Third Street, San Francisco, for the long trains which descended on the bay region from every section of the United States. Superintendent T. F. Rowlands of the Western Division was confronted with the difficult problem of handling both influx and exodus over the boat at Benicia, in addition to which there was the handling of the cars at Oakland Pier, switching into the yards for cleaning and overhauling and the subsequent handling to San Francisco via Dumbarton Cut-Off for outward movement from the Third Street Station.

Between the hours of 5 a. m. June 26 and 3 a. m. June 27 the Western Division handled a total of forty-nine passenger trains, consisting of 468 cars, on the Benicia ferry, an average of a train every twenty-six minutes and forty seconds for the twenty-two hours.

Similarly between the hours of 5 a. m. June 26 and 4 a. m. June 27, 393 passenger cars moved out of Oakland

Pier and 533 entered—a total of 926 cars.

Yard Forces Held Out.

Yard forces at Oakland and Port Costa were heavily taxed. Yard crews at Port Costa willingly worked a double shift, so that two crews were used on each boat and trains handled expeditiously. It was also found necessary to double some of the yard crews at Oakland. Not a mishap occurred.

In conjunction with the Shiner movement on June 26 the Western Division received the first heavy movement of delegates to the Democratic Convention.

Through the courtesy of the Pullman Company fifty standard cars were received at their Richmond shops for renovating, enabling us to park Shiner trains more readily, and, after their departure, switch the cars from Richmond to the West Oakland yards for storage.

A serious problem was presented in handling this enormous business out of Oakland Pier, but the matter was solved at a staff meeting and the whole matter was gone over and tracks selected for each train. To handle the outbound movement it was found necessary to use all the tracks on the north side of the train shed, one of the three incoming tracks and two tracks inside the electric shed.

A large sign was placed on the rear of each train designating the temple or delegation to which the train was assigned, and all the cars were ready for occupancy from two to six hours in advance of leaving time.

As a minor problem, one of the many incidents to railroading, 1370 trucks of baggage mail and express were ferried between Oakland Pier and San Francisco in twenty-four hours on June 26, most of it concentrated at rush hours.

On the Coast Division.

What is true of the Western Division is also true of the Coast Division and the Third Street Station, by which thousands of people entered San Francisco via the Southern Pacific's all-rail route. Here another transportation record was established. Superintendent T. Ahern's figures show that during the period from June 15 to June 30, for the Alysic Shrine movement alone, 2046 passengers arrived in San Francisco in 168 cars. The same movement out of San Francisco consisted of twenty-one special trains, with 4084 passengers, which were handled between June 19 and 30 of the same month. From June 1 to July 5 more than 577,000 passengers entered and departed from San Francisco via the Third Street Station. Comparing this movement with the same period of 1915, when the world's exposition gave the Southern Pacific a mark to aim at, only 347,000 passengers arrived and left San Francisco through this station, indicating an increase of over 129,000. During this same period, June

1 to July 5, 1920, red cap porters handled a total of 62,000 pieces of baggage, or an average of 1500 pieces a day, without loss or complaint.

The Coast Division faced its heaviest movement between June 14 and July 6, when, to its regular outbound trains from the Third Street terminal, fifty-five additional sections were added—twenty special Shiner trains, eighteen equipment trains and five Democratic special trains, to say nothing of a special tourist movement, a theatrical train, two trains of Chinese transits, etc. Altogether for the twenty-three day period, June 14 to July 6, the Coast Division handled into San Francisco 683 trains, with a complement of 4980 passengers. The heaviest single day's movement outbound occurred on June 26, when thirty-seven trains, with 296 passenger cars, entered San Francisco via Third Street, and on the same day thirty-nine trains, with 325 passenger cars, departed.

Everything was done, as on other divisions, to safeguard patrons and provide a maximum of comfort and convenience.

A staff officer of the Coast Division traveled on every Shiner train so long as it was on the division. By parking a large number of trains in the Third Street Station yard and connecting them with running water and other conveniences passengers were enabled to enjoy themselves thoroughly in San Francisco, and return at nightfall to their trains for sleeping accommodations, thus assisting the city to care for its guests.

The task of feeding en route the thousands of Shiners who visited Portland and San Francisco and the Democratic delegates to the San Francisco convention was another severe test for the Southern Pacific service during the movement extending from June 1 to July 5.

S. M. Estabrook, manager of dining car service, furnished the following data showing how this problem was met and the magnitude of the task.

Twenty-eight extra diners were used for the Shiner movement into Portland and for the movement out of Portland and it was necessary to add thirty-two extra diners. Eighty diners were used to accommodate the Democratic delegates into San Francisco.

Approximately 40,000 meals were served on the extra diners and in dining cars on the regular trains during the movement. Each day 35,000 pieces of linen were used and in stocking the diners for the start at West Oakland the following supplies were issued:

Butter, 2000 pounds; eggs, 1500 dozen; bread, 1650 loaves; fresh meat, two and one-half tons, and other supplies in like proportion. In addition to these supplies purchases were made at Portland and at stations on the way.

Finally, the Southern Pacific had the satisfaction of receiving from all

APPOINTMENTS.

Auditor T. O. Edwards announces the appointment of Mr. G. W. McElwain as assistant auditor of passenger accounts and Mr. A. L. Wilson as assistant auditor of disbursement accounts. Both were effective July 1.

Division Engineer W. F. Turner announces the appointment of Mr. Thomas Brown as roadmaster of the Gila District, Tucson Division, with headquarters at Gila, Ariz., vice Mr. C. M. Kipp, who has resigned. Mr. Brown assumed his duties July 1.

Effective July 1, Mr. G. H. Moore and Mr. E. J. Kellum announce the appointment of Mr. J. B. Blanchard as yardmaster at Gerber, vice Mr. M. Cooper, who has been transferred.

Assistant General Manager T. H. Williams announces the appointment of Mr. L. P. Hopkins as acting district supervisor of transportation, Southern District, with headquarters at Los Angeles, and Mr. H. R. Hughes, assigned temporarily to other duties.

Division Engineer Otis Weeks announces the appointment of Mr. E. E. Mayo as assistant division engineer of the Salt Lake Division, with headquarters at Ogden, Utah, vice Mr. F. Turner, promoted.

Assistant Superintendent F. C. Smith has announced the appointment of Mr. B. M. Mergen as assistant trainmaster of the Salt Lake Division with headquarters at Ogden, Utah. Mr. Mergen assumed his new duties July 1.

W. L. Hack, assistant superintendent, announces that Mr. W. B. Kirkland has been appointed trainmaster of the Sacramento Division, with headquarters at Sacramento, Cal.

W. M. Stittman, assistant superintendent, announces that J. J. Sullivan has been appointed trainmaster of the Stockton Division, with headquarters at Tracy, Cal., vice Mr. W. B. Kirkland, transferred.

Mr. P. Slater, assistant superintendent, has announced the appointment of Mr. L. A. Roberts as division examiner of the San Joaquin Division, with headquarters in Bakersfield, vice Mr. C. G. Trotter, promoted. The appointment was effective July 10.

Division Engineer H. M. Lull announces Mr. G. W. Hendren has been appointed roadmaster of the Coos Bay District, with headquarters at Marshfield, vice Mr. C. Y. Neadon, transferred.

Mr. C. Y. Neadon is appointed roadmaster of the Hillsboro district, with headquarters at Hillsboro, vice Mr. E. E. Mayo, transferred.

Sides written and spoken testimonials, from Easterners and Westerners alike, of the success which attended its efforts to serve its patrons, and this is reward enough for most railroad men.

IMPERIAL VALLEY SHIPPERS PRAISE MELON SERVICE.

The movement of Imperial Valley cantaloupes, approximately 9000 carloads, destined principally to Eastern points, has been concluded—just how successfully and under what difficulties is shown in the following statement issued voluntarily by prominent shippers at Brawley June 3:

"The 1920 cantaloupe shipping season from the beginning of carlet movements until this date has presented many difficult problems to both the shipper and the railroad. The freakish weather conditions, completely reversed almost all estimates previously made, not only as to production, but more generally in connection with the volume of movement.

Realizing all of these difficulties and complications encountered by ourselves, we are not insensible of the conditions under which the employees of the Southern Pacific Co. and the Pacific Fruit Express Company who were in charge of handling the cantaloupe movement from this valley were laboring and we fully realize that they at all times were handicapped through these circumstances.

Therefore, following resolution was adopted by the unanimous vote of the distributors at their meeting held July 2, 1920, at the Dunlack Hotel:

Resolved, That we, the cantaloupe distributors of the Imperial Valley, desire to express our sincere appreciation to the employees of the Pacific Fruit Express Company and the Southern Pacific Company who are in care of the transportation of cantaloupes from the Imperial Valley for their most courteous and efficient service from the beginning of the season to this date.

Among those who signed the statement were:

Crutchfield & Woolfolk, Arthur Miller, F. H. Speich & Co., Hunt, Hatch & Co., F. H. Katin, A. Aren & Co., Eastern Distributing Company, John Amicon, Bro. & Co., California Vegetable Union, L. K. Small Co., Ben H. Arkelan & Co., Will S. Fawcett, Brown & Ford, Associated Fruit Company, R. Krasnow & Sons, S. A. Gerard & Co., T. H. Peppers Company, American Fruit Distributors, C. H. Weaver & Co., Jos. Gentile & Co., E. M. H. Wagner & Sons, Robert E. Leahy, Fruit Distributor Service Company, Randolph Marketing Company, Alamo Packing Company, American Fruit Growers, Inc., of California.

CONTRIBUTIONS FOR WAR MEMORIAL.

Employees in the General Office, Southern Pacific Company, 65 Market Street, San Francisco, contributed \$1000 to the San Francisco War Memorial fund in the recent campaign.

This country could no more exist without its transportation system than the human body would do without its circulatory system.—New York Commercial.

Ask Higher Demurrage Rate

Pacific Car Demurrage Bureau shows higher rate works to advantage of shippers

In a pamphlet issued recently by the Pacific Car Demurrage Bureau, Manager R. C. Munholland makes a very forcible plea for a higher demurrage rate and for permission to the lines composing the membership the Pacific Car Demurrage Bureau, to withdraw from the National Demurrage Code, which now applies uniformly to all roads throughout the United States, substituting for the rules of that organization those of the Pacific Car Demurrage Bureau in force prior to Federal control.

Mr. Munholland points out that a demurrage charge is intended to effect the prompt release of cars and is not a means of earning revenue, the fee for the use of a car being far more important to the carrier than is the sum paid as demurrage. Charts and figures given in the pamphlet demonstrate beyond a doubt that a high rate does result in the prompt release of cars and consequently reduces demurrage paid by shippers. In fact, it would seem from past experience that the higher the rate the smaller the amount paid as demurrage. Figures denoting total amounts paid within a given period under the high rate as compared with amounts in corresponding periods under a lower rate support this theory.

To illustrate: Notwithstanding a decrease of 200,000 cars reported in the past twenty-four months ending with April, 1920, as compared with a similar period there was an increase of 78,000 cars held for storage purposes, or an increase of 76 per cent, and demurrage collections increased 133 per cent. Mr. Munholland shows that when the \$6 demurrage rate was in effect on State traffic and a dollar rate on interstate traffic, July 1, 1909, to April 30, 1911, of 2,291,552 cars reported the total cars held overtime numbered 44,712, or 0.195 per cent, and net collections amounted to \$239,004. Comparing these figures with those of July 1, 1918, to April 30, 1920, we find that of 3,071,102 cars reported 149,238 were held overtime, or 0.486 per cent, and net collections amounted to \$1,49,063—a net increase of 34.02 per cent in total cars reported and an increase in net collections of \$380.77.

Mr. Munholland also brings out the fact that shippers are in favor of the high rate, realizing that the result of it is to conserve the car supply as a whole, which in the long run is, of course, a benefit to the shipper.

They take this view regardless of the fact that a derelict shipper may occasionally be penalized by the higher rate.

The National Demurrage Code con-

tains a so-called average agreement, under which a shipper by unloading a car in less than the free time allowed by the rules is given credit on subsequent cars. Western roads have found this practice very objectionable.

It makes no distinction between cars of various classes, nor between commodities with which cars are loaded. Under this rule a car loaded with liquids, for example, which may be unloaded in an hour or less, the load practically handling itself, may be used as a credit to offset a car loaded with any other commodity, increasing in this way the free time during which the last-named car may be held, and in this way it tends to defeat the object of demurrage which is to hasten the release of cars.

WESTERN DIVISION HEAVY WITH SUMMER TRAVEL.

By J. R. HOCKETT
Superintendent, Western Division

Travel via the Southern Pacific continues heavy to the various resorts and springs in Sonoma and Lake Counties. Hot mud baths and sulphur springs at Calistoga and vicinity are unusually popular this year and unexpected travel is being experienced.

The site of the old race track at Emeryville, once considered the fastest track in the West, has been converted by the plow and steam roller from one great oval into a series of straight and curving highways. The track can still be seen, but instead of being used for fleet-footed horses, it now forms a part of the arteries which go to make up the great highway over which locomotives will shortly deliver the fastest and finest material from an industrial center. Spur tracks and connections costing many thousands of dollars are already on the ground.

The Sherwin-Williams Company has started construction of a half-million dollar plant on this side. The main building, when completed, will be of concrete, two stories high, 400 ft. long, with a varying depth of from 40 to 70 feet.

Mr. L. H. Vincent, division accountant, has accepted a position with Mr. J. Kennedy's office as traveling accountant. Mr. A. Roat, formerly assistant division accountant, has been promoted to division accountant. Mr. V. H. Westart has been promoted to assistant division accountant.

The many friends of O. L. Sisk, head clerk of the maintenance of way department, are pleased to again see him performing his duties after his recent illness.

S. P.'s "City of Shops" a Story of Perfection

Newspaper woman finds at Sacramento much of human interest in tour of our facilities at that point

PERFECTION is made of trifles, but perfection is no trifle," says an old adage, and a trip through the local Southern Pacific shops, the largest shop industry west of the Mississippi, and on a par with the largest industries of the East, would suggest to a visitor, and that is the point, that company works its biggest shops with this moral in view. And there is "some moral" contained in a story of the inner workings of that huge industrial center.

Although 45 per cent of all the equipment on the Pacific Division of the Southern Pacific Company is made in Sacramento, as well as most of the steamship and ferry equipment and machinery for the Bay district, not to speak of all the repairs and repairs of new engines turned out of the shops; not a lead pencil is used that has not been tested for efficiency first.

Oil for use in lanterns must be able to burn so many hours, and was used to the firm that sells the Southern Pacific as much as a pencil that does not come up to specifications. Everything is bought by specification. The laboratory nestled in among the buildings in the yards is one of the least known but most important cogs in the working of the great detailed system. No imperfection can remain in the dark after the searching, trained eyes in the laboratory have ferreted out causes.

Trace Cause of Wrecks.

"Why was that wreck?" "How did that engine break down?" The laboratory can tell you that metals and chemicals were not properly fused in the beginning, or whether it was the work of a faulty shopman. Through its system of identification, the railroad company can narrow down to the person basically responsible practically every time. But more about the laboratory later.

The writer was privileged recently to view the multitude of shops, foundries, and specializing departments under the guidance of H. C. Venter, general foreman of shops, at the invitation of A. D. Williams, General Superintendent of Motive Power for this division of the railroad. She returned footsore, weary, and ready for the tub, several hours after she started, but with a whirling mind full of appreciation. Details, details, details; every one at work on something small, but with a smooth and perfect whole it made.

\$400,000 Monthly Payroll.

Sacramentans rise to the early blasts from the shop whistles, or we casually glance at the hundreds (nearly thirty or hundred) of the exact act of blackened men who dot the

Miss Jacques Wilson, a member of the Sacramento Bee's reportorial staff, recently visited the Southern Pacific shops in that city. In a special article, which is reproduced for readers of THE BULLETIN, Miss Wilson gives her impressions of the activities and methods used by the 3500 employees to obtain the greatest efficiency. Seeing ourselves as others see us is refreshing, especially when the viewpoint is as comprehensive as that taken by Miss Wilson.—THE EDITOR.

streets nightly on their way home swinging their dinner pails and vaguely remark to our visitors "they come from the shops"; but how few know anything real about that great thundering place that pours into the coffers of Sacramento nearly \$400,000 from its monthly payroll, wages which amounted to \$3,720,000 in 1919 while still under Government control. With the return of private control the payroll is larger.

Shown through the phrase is the Southern Pacific shops really are one big city to themselves. They even have their own money system for exchange in the yards. This is necessary because the shops are divided into two separate great departments, the mechanical and store departments. Each worker is given ten "checks" when he enters the employ of the company and he buys his working tools each day with them, and is accountable for these checks and what they bought, when he finally leaves the employ of the railroad.

Then the foreman has his "4218," or paper draft, with which he "buys" all the parts he needs for whatever he is working. Though 75 per cent of these parts have been manufactured in the shops, they are turned over to the store department and belong there as definitely as if these two departments were separate concerns. This rule holds even to a bolt or a screw.

Watch Most Minute Expenses.

In this manner, the company is able to keep track of the cost of production, a regular system of bookkeeping and pricing is kept according to the fluctuations of the regular markets, and if a locomotive costs too much, officials can account for the actual cost of each part down to the last rivet.

The big storehouse where the rolling stock is kept, looks much like any huge hardware store would look. Parts all boxed in high rows in aisles down the center and perfectly marked. Messengers with "4218's"

continually are on the run back and forth with their loads for the foreman.

The Laboratory Testings.

The speaking of the laboratory and its importance in the general scheme of work it might be mentioned that practically all the men employed there are graduate chemists. To facilitate improvement in building perfect parts, broken pieces of engine wheels, broken springs or vital parts of engines that have caused wrecks or trouble somewhere along the Southern Pacific road, are all piled together near the laboratory to be tested and the trouble traced.

Analysis is not made only after damage has been done, however. By a new process in the newly constructed steel foundry, excellent steel is turned out from second-hand material through a giant six-ton electric furnace, and by the aid of certain chemicals and minerals. This work is done under the supervision of a metallurgist, L. J. Barton.

Each day, to make sure that "the mixture" is right, a sample of the metal is taken from the furnace to the laboratory, where it is analyzed by an expert. This care insures less future trouble of parts being faulty.

A great deal of manufacturing is done within the walls of the laboratory, also, and from the Sacramento shops come most of the liquid soap used on the trains, the ink, muckage, car cleaner, and a dozen more articles used upon the Pacific System of the Southern Pacific.

Elaborate Salvage System.

But the salvage system of the Southern Pacific is one of the real wonders of modern industry. There is a huge refuse pile, but there is no waste. Even the ashes are conserved, placed on freight cars, and sold for the chemicals that are in them.

In that refuse heap is every conceivable article, or piece of article, that might be used on a railway. Iron and metals are scraped, banded in the "canney," and then taken to the foundry where they feed the great molten mass of fiery lava in the steel furnaces. By a treatment of certain chemicals, a good grade of steel is the result, and waste becomes very fine and economical material.

Getting Rid of Rust.

Then there are a variety of "laundries." Some of the metal parts are still as serviceable if it were not for rust and corroding. There is a huge lye boiler, called the "rattler," that eats off the outside coatings and turns out a supply of perfectly good metal again. This idea of cleaning carried down even to the "packing" waste that is

used in engines. Barrels of gritty and dirty packing arrive weekly at the shops, to be turned over to its individual laundry, steamed, reoiled and made ready for reuse.

Speaking of the "rattler," Foreman Venter reminded me as we stood next to the heavy machine hardly able to think, that the shopmen were so accustomed to hearing the conglomerated noises that the slightest variation of sound was noticed by them, even if it came from a distant shop.

Feed Old Wheels to Furnace.

In line with the salvage work is the reuse of old train wheels. Files of discarded wheels lie in the vicinity of the general foundry, and are broken up by a huge steel pounder and then fed to the furnace. In this manner 85 per cent of the old wheels are reused, and an average of 277 wheels a day, or 94 wheels an hour, are turned out by these men, who begin work about 3 o'clock in the morning to escape the additional heat of the day.

Then men in those shops work hard and steadily. No piecework is done any more, but there is no loading of the job anywhere apparent. It would be impossible to go into detail about the work of tearing down and building up in all individual shops, the list including the machine shop, boiler shop, blacksmith shop, spring shop, general foundry, airbrake shop, babbitting shops, tin shop, car shop, the cabinet makers, hammer shops, rolling mill, car machine shop, steel foundry, paint shops, brass factory, frog shops, and a multitude more.

The recruits for this vast army of skilled workers are drawn from the apprentice school, which is operated there under practical instructors. Young men between the ages of 18 and 22 serve four years' apprenticeship, going to school four hours a day and drawing wages for the time they work and study. During these four years the boys are given an all-round mechanical training, and at the end of their training records show that 77 per cent of the boys remain there as journeymen, perfectly satisfied with their treatment and training. There are 215 apprentices learning trades at the local shops at this time.

Some Women in Shops.

Working shoulder to shoulder with the men, wearing the same sort of overalls, and operating the same machines, are the remaining remnants of the women army that worked for the company during war times. There are only thirteen left, and Foreman Venter says they are leaving one by one, usually marrying shopmen. He says they do their work well and are found to be very efficient upon certain lines of fine work, particularly in the pattern department.

There is no doubt but that the Southern Pacific Company is co-operating with its employees in warding off danger of accidents whenever possible. Over every machine is a warn-

ing, and broken glasses showing how accidents have actually happened on that particular machine. Each man is provided with goggles and safeguards of all kinds. One of the most familiar signs about the walls is, "You can see through glasses, but not through glass eyes." According to statistics, 95 per cent of the injuries to shopmen are eye injuries.

Have Own Fire Chief.

To further safeguard the lives of the men a fire chief is employed at the yards, who does nothing but investigate the conditions. There are two fire drills a month, and every one in the place turns out, not knowing whether something is actually wrong or only a drill.

Many highly specialized machines are monthly being installed by the company to improve the grade of work they turn out. For instance, there are three magnet cranes at work on the grounds picking up scrap, each operated by a couple of men, accomplishing work that originally took from fifteen to twenty men to do. There are huge air compressors, costing \$50,000, have just been installed to compress air to be piped to all departments. There is a friction saw with no teeth that cuts through metal; there is a variety of wonderful machinery to enthrall the heart of a mechanic, but all too technical to be described in this article.

The already big shops are branching out methodically to the north on the filled-in sand lot near the river, and officials claim their dream of a time when 8000 men will be employed there is not too far distant prospect to be a reality in the next few years.

INSTRUCTING NEW TICKET SELLERS.

Before placing a new ticket seller on duty, he should be fully instructed by agent or experienced ticket seller as to the location, form, and use of different kinds of tickets, tariffs, and current circulars; the arrangement of instructions, fares, and other details in tariffs; the method of issuing tickets, including cutting of simple tickets; operation of ticket dater; writing on interline and local tickets, including any route endorsements required and as to handling and care of office equipment.

The new ticket seller should take pains to familiarize himself with these details and see that he understands them in order that he may be able to readily ascertain the correct fares, and issue tickets in the proper manner.—The North Western.

DON'T DELAY REPLIES TO CORRESPONDENCE.

Get the habit of answering all correspondence promptly. Every hour you delay reply to a telegram or a letter is depriving some one else, probably several people.

S. P. WAGE INCREASE IS ESTIMATED AT \$17,500,000.

The railroads on the coast have not yet had time to determine how much of the \$625,000,000 annual increase in railroad wages granted by the Labor Board will have to be borne by them, but it is believed that all of the Southern Pacific lines combined will have an added bill of about \$17,500,000. On the Pacific System line there are over 50,000 employees. The dividends paid to the stockholders last year were \$17,478,460. So this one increase equals the amount that the stockholders got altogether.

The annual report to the stockholders shows that the increase in wages and cost of materials used in operation in 1919 showed increase compared with 1918 of \$18,833,500. This increase is approximately \$1,400,000 more than the stockholders received.

The stockholders of the railroads have not had any of the increase in revenues arising from that source, whether increased volume of business or from higher freight and passenger rates. The dividend rate on no large system has been increased for many years. The Southern Pacific stockholders got 6 per cent in 1919, just as they did in 1914; but this actually means out of every dollar earned by the Southern Pacific the share that goes to the stockholders is 40 per cent less in 1919 than it was in 1914.

The progress of taxation in railroad affairs is also graphically represented by comparing 1911 with 1919. In 1911 for every dollar paid the stockholders of the Southern Pacific about 33 cents went for taxes; but in 1919 for every dollar the stockholders received the company paid out 73 cents in taxes. Taxes increased from \$5,461,570 in 1911 to \$12,842,270 in 1919.

The new increases in freight and passenger rates are due directly to the increased cost of operation. First, wages; second, higher cost of materials used in operations, and, third, taxes. The fourth item is the necessity for providing revenue by taking care of the interest charges on money borrowed to furnish more locomotives, cars, additional tracks, terminals and other facilities to give a better service.

The gross earnings from all sources exceeded \$260,550,000 in 1919, out of which the stockholders received \$17,478,460. In 1914 gross revenues were \$152,633,950, out of which the stockholders received \$16,361,090. The increase in dividends was not due to an increase in rate, but to an increase in capital stock, the bondholders having exchanged some of their 4 and 5 per cent bonds for capital stock under their rights as bondholders.

Economic Aspects of the Fuel Oil Situation

Country-wide thrift campaign needed to safe-guard this resource, essential to railroad operation

By EUGENE MCAULIFFE, Former Manager Fuel Conservation Section, U. S. R. A.

WITHIN twelve months the fuel oil situation, insofar as present and future supply, as well as unit costs, are concerned, has undergone startling changes; one year ago we were alone concerned with the economical consumption of fuel oil; today there is a national, and, I might say international, feeling that the period of fuel oil consumption for steam making purposes is substantially behind us.

In 1909 and 1910 the great oil development in Mexico was well under way and until within the past few months the ever-recurring revolution common to our Latin-American neighbors was the principal nightmare suffered by the Mexican oil men. In November of last year Juan Caisno No. 4, after producing 75,000,000 barrels of oil, went to salt water in a few hours. This startled the Mexican oil producer and gradually the news trickled out to the oil consuming world that the great Mexican oil fields had limitations such as those experienced in the fields to the north of the Rio Grande. A month later Portrero del Llano of the Mexican Eagle Oil Company, Lord Cowdray's British organization, after producing 110,000,000 barrels of oil at the rate of 16,000,000 barrels annually swung over to salt water in a few hours; then, on February 21 of this year Tepetate No. 1 of the Cortez Oil Corporation followed suit; meanwhile numerous less prominent producers have gone the way of all good oil wells.

While the effect of this situation was startling, perhaps the rude awakening suffered by the Naval Department more thoroughly alarmed the oil consumers of the country than did anything else. After practically effecting the consummation of a very extensive oil burning program the Naval Department, asking in March last for Pacific Coast bids on 4,500,000 barrels of fuel oil, received but one bid, covering a delivery of but 602,000 barrels, at a price of \$1.95 per barrel. In April bids were requested for Atlantic Coast deliveries; five tenders returned, covering an entirely insufficient supply, the price for bunker oil ranging from \$2.07 to \$3.76 per barrel of 42 gallons. A similar fuel problem confronts the American Merchant Marine, the completed program of the United States Shipping Board aggregating 10,000,000 dead weight tons of which 2,000,000 tons will consist of coal burning vessels, 8,000,000 tons of oil burning vessels, the estimated fuel oil requirements of the Shipping Board for the

From time to time the Bulletin has printed articles on the subject of fuel oil conservation, a subject in which the Southern Pacific is vitally interested. In this article Mr. McAuliffe sketches graphically the national situation as regards the commodity which has come to be designated as "liquid gold." In 1918 America drew from its oil wells one-twentieth of the amount estimated by geologists to be under the ground, and, in addition, one-fifth of the reserve supply above the ground. Railroads now face, according to Mr. McAuliffe, the probability of being compelled to return to coal for a fuel.

year 1920 40,000,000 barrels; for 1921, 60,000,000 barrels.

The statement of men who should know that 1920 and 1921 will mark the peak period of oil production, with a steady decadence from this time forward justifies serious consideration of the oil problem. The United States Geological Survey estimates that, with the close of the year 1919, we have taken approximately five billion barrels of oil out of the ground; the estimated oil reserve yet in the ground is six and one-half billion barrels. What does the future promise? Dr. George Otis Smith in a paper presented at the meeting of the American Institute of Mining and Metallurgical Engineers said:

"The position of the United States in regard to oil can best be characterized as precarious. Using more than one-third of a billion barrels a year, we are drawing not only from the underground pools, but also from storage, and both of these supplies are limited. In 1918 the contribution direct from our wells was 356,000,000 barrels, or more than one-twentieth of the amount estimated by the survey geologists as the content of our underground reserve; we also drew from storage 24,000,000 barrels, or nearly one-fifth of what remains above ground.

"In a single decade the consumption of fuel oil by railroads has more than doubled; the consumption of gasoline has increased sevenfold. With the rapidly mounting cost of coal the competitive field of fuel oil for steam use is expanding.

"A country-wide thrift campaign needs to be waged looking to the saving of this essential resource. Man

power and oil ought to be conserved all along the line of production and consumption."

Between 1909 and 1918 the number of automobiles and trucks increased 170 per cent and the consumption of gasoline for automobile purposes jumped from 13,000,000 to 85,000,000 barrels, or 650 per cent, while the production of crude oil increased 95 per cent. Today we operate 7,600,000 automobiles and motor trucks and 350,000 tractors, and the 1920 construction program totals 2,000,000 automobiles and motor trucks. Power boats, aeroplanes and minor power and pumping plants employ thousands of internal combustion engines, all calling for oil and gas. It takes a half pint of oil to translate a ton of coal into power by way of the steam engine, to consume the power so generated takes much more. Without petroleum we could no more grease the bearings and axles of machinery than we could light our great buildings and streets with tallow dips. The total available animal fats, together with that which it might be possible to extract from sea life, in the period of a year would not even dimly light and poorly lubricate the world for one-tenth of that time, even though food fats were taken to swell the supply. The government has thrown open for drilling 6,500,000 acres of national oil reserves, but the lands located in California and Wyoming, will not add materially to our supply. In 1919 twenty-nine thousand wells were driven, to success or failure; of these 6000 were dry. 1920 returned gas without the drilling expense estimated at \$600,000,000.

The translation of oil into steam will quickly, through the pressure of economic forces, cease and the transportation companies must sense the changes that are taking place in the fuel oil world. Millions of dollars were saved in past years by the substitution of cheap crude oil and refinery residuum for coal in locomotive fire-boxes, and only twelve years ago it was difficult to force the skimming plants of Texas and Oklahoma to take sufficient gasoline out of the crude to make its use on a locomotive safe. The railroads which then absorbed the residue left after the taking off of the lighter distillates built up a comfortable refinery traffic for their rails, but a complete return to coal fuel is now imminent. To avoid the necessity for summary and violent changes the work of shifting fuels should be undertaken at once and

conducted quietly and gradually. Fifty million barrels of fuel oil represents twelve million tons of coal. This is not a large tonnage if it were not for the fact that the major portion of the oil is consumed where the coal production is relatively small. Equipment and coaling stations will be required to handle the fuel coal. The subject is one that should command the immediate and serious attention of every railroad executive and operating official in oil burning territory.

THE SHIPPER CAN HELP BY HEAVY LOADING.

Railroad statistics show that the average carload on all the railroads in the United States is only about 70 per cent of the carrying capacity of the car and in addition to that about 32 per cent of the total car mileage is made with empty equipment. A great deal can be done towards getting a more effective use of cars by increasing the carload, and this is a matter almost entirely within the control of the shipper, and serious consideration should be given among other things to the revision of minimum carload regulations, to the end that a more effective use be made of all cars.—From recent address by Daniel G. Willard, President of the Baltimore and Ohio Railroad.

MODERATE INCREASE IN HOSPITAL DUES LIKELY.

For many years hospital dues on the Atchison, Topeka & Santa Fe System (Coast Lines) were 50 cents per month, applying to employees earning under \$100 per month and \$1 to employees earning \$100 or more. This was recently found inadequate, and, effective June 1st, 1920, dues were increased to 65 cents and \$1.25 respectively. For more than fifty years Southern Pacific (Pacific System) hospital dues were 50 cents per month, regardless of earnings, but on March 1st, 1920, when the indebtedness of the Hospital Department was \$221,000, a trial increase in dues was made as follows:

Earnings under \$85, dues \$0.50
Earnings \$85 and under \$125 65
Earnings \$125 and over 75

The chief surgeon advises that, while the present dues will be given a longer trial, indications are that they will have to be moderately increased in the near future, but he believes a maximum of no more than \$1 applying to the larger earnings will be sufficient and still considerably under that of the Santa Fe and other large railway systems which maintain hospitals at all comparable to ours rather than farming out their patients.

We do not want a starved transportation system in the United States.

We want it to be healthy, because only so can it be efficient.—Manufacturers Record, Baltimore, Md.

A REAL FLAG HOUSE



Joseph A. Beardsley sends THE BULLETIN this photograph of his shelter house at Shattuck Avenue and Dwight Way, Berkeley, Cal. The picture was taken on Independence Day, and indicates that Mr. Beardsley, besides being a capable crossing watchman, is a strong believer in "Old Glory."

SAN FRANCISCO'S FERRY SUBURBAN SERVICE.

"The Southern Pacific Company last year handled in and out of San Francisco without mishap over twenty-seven million people, over 500,000 vehicles and enormous quantities of mail, express and baggage, which all found its way through the Ferry Building without delay, confusion or even congestion," says the San Francisco Business, issued by the Chamber of Commerce.

"Back of this transportation triumph is an investment by the Southern Pacific's suburban service alone of over twenty millions of dollars, including ten of the largest passenger ferryboats in the world, 100 miles of electric trackage, 151 steel suburban coaches, shipyard, power plants and equipment. Incidental thereto, is the whole Southern Pacific's main line traffic.

Most Extensive Ferry Service.
"When it is understood that the Southern Pacific operates 902 electric trains a day between its East Bay terminals and Oakland, Berkeley and Alameda, credence may well be placed in the claim that the San Francisco Bay District enjoys the most extensive ferry electric train service in the world. So excellent are the arrangements that the casual observer would never believe that the Ferry Building floors echoed daily to the tread of 150,000 people.

"Between the hours of 5 and 6 o'clock in the evening, when the outbound rush is at the peak, sixteen ferryboats leave from Southern Pa-

cific, Northwestern Pacific and Key Route slips.

"These steamers have a combined capacity of well over 30,000 people. Commodious waiting rooms, well arranged schedules that are closely observed, courteous and skilled assistants, equipment that is maintained at top standard, and extraordinary facilities for handling the traffic at the other end are all factors which combine to make the service the marvel of transportation experts the country over. The stranger will be impressed agreeably with the perfect order that characterizes the transbay traffic, even at its height.

"Operating efficiency on land and water finds expression in this service. The Southern Pacific, for example, can empty a crowded boat at Oakland Pier in approximately three minutes, and have 3000 people moving away on its electric trains in approximately the same length of time. That is because it always has plenty of cars so arranged that they can be filled expeditiously and in perfect order and be dispatched at once.

"At Oakland Ferry terminal, during a 100-minute period, mornings and evenings, car movements exceed one a minute. To be exact, on an ordinary week day 116 large coaches reach Oakland Pier in 100 minutes in the rush of the morning, and during a similar period in the evening 124 coaches depart. The Southern Pacific steel passenger coach will seat 116 people.

On Minute Schedule.

"Figures taken in December, 1919, showed that ninety steam trains and 677 electric trains moved in and out of Oakland Mole every 24 hours, and under emergency conditions the switching movements ran over 2000 a day, or better than one a minute.

"There is another important factor which contributes to make San Francisco's transbay service popular. The business man may have his office on one side of the bay and his home on the other, twelve miles apart, and cover the intervening distance by rail and boat one way for the price of a shoeshine. If that is too expensive he can make the round trip of twenty-four miles daily in a 31-day month, 744 miles, for \$4 a month, which establishes another record possibly more marvelous in these days than the other."

The International Railroad Master Blacksmiths' Association will hold its convention on August 17, 18, and 19 at the Hotel Statler, Detroit, Mich., instead of at Birmingham, Ala., as had previously been planned.

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THIS ISSUE.

We earnestly hope that all our readers, when they are through with this issue of the Bulletin, will pass it on to their friends and call attention to two articles in particular—the story of the Sacramento Division as related by Superintendent J. D. Brennan and the article on "How the Southern Pacific Is Trying to Improve Its Service," from the pen of General Manager J. H. Dyer.

Here, at one and the same time, we have the romance of railroad and a recognition of its great objective—public service.

He must indeed be a man of little imagination who will not feel his pulse quicken and a thrill of satisfaction flow along his veins when reading the story of the Southern Pacific's pioneer division—"The Alice in Wonderland Trail of the Iron Horse!"

Similarly, the reader will undoubtedly obtain from Mr. Dyer's article a clear understanding of the problems that confront the Southern Pacific at present and of the successful efforts that are being put forth to better serve the public.

The Bulletin did not have in mind when it took up the various divisions as a monthly feature anything more than acquainting the members of our constantly growing family with what was going on at points with which the majority were out of touch.

But now it appears that what is actually being compiled is a history of the Southern Pacific Company in all its romance and wonderful accomplishments.

Portland, Los Angeles, Shasta and now Sacramento have told their stories. Next month the Salt Lake Division will have its turn. There will remain the Western, Coast, Stockton, San Joaquin and Tucson Divisions, each rich in romance and interest.

As a contribution to railroad literature these articles, we hope, will prove valuable and give us all additional reason to be proud of our Southern Pacific affiliations.

The Railroad H. C. L.

(From *Railway Age*)

A locomotive which in 1914 cost \$27,876 will now cost \$75,750, an increase of 171 per cent. In 1914 a railway had to pay only about 5 per cent interest on the money invested in a locomotive, while now it must pay about 7½ per cent. Therefore, its interest charges on a locomotive bought six years ago were \$1394 a year, while on a locomotive bought now they will be about \$5681 a year, an increase in fixed charges of 310 per cent.

An average box car bought in 1914 cost about \$1000, while now it would cost about \$3000, an increase of 200 per cent. The interest on the investment in the car in 1914 would have been about \$50 a year, while now it would be about \$225 a year, an increase of 350 per cent.

The foregoing statistics illustrate the advances which have occurred in the prices of equipment and in the interest that must be paid on the investment in it. The increases in the cost of constructing track and bridges have not been so great but they have been very large. In 1915 a ninety-foot through girder bridge could be bought and installed—not including masonry—for \$6427. It would now cost \$15,117, an increase of 135 per cent. These figures are based upon records of the actual expenditures of a certain road. In 1915 this road paid \$12,550 per mile for merely the rail track fastenings, ties and ballast used in the construction of a new main track. The same materials would now cost \$26,234, an increase of 110 per cent. For like classes of materials used in building a mile of side track, including two main track turnouts, this road in 1915 paid \$8620. The same materials would now cost \$16,904, an increase of 96 per cent.

One important cause of the increase in railway expenses is the advance in the prices of all commodities and therefore in the amounts that the railways have to pay for loss and damage to freight. A carload of apples in 1909 was worth \$900, while today it is worth \$2300, an increase of 155 per cent. In 1909 the freight revenue on a carload of apples from Yakima, Wash., to St. Paul was \$255, while today it is \$319.50, an increase of only 25 per cent. If a railroad paid a claim for the complete loss of a carload of apples in 1909, it took the freight revenue from three and a half carloads of apples, while now it would take the freight revenue from seven carloads.

A certain railway recently was presented a claim for \$4511 for the loss of a carload of beef. The high value of the beef was of course principally due to the increases in prices within recent years. The freight earnings from the shipment were \$113.40. Therefore, if the railway has to pay the entire claim it will take the revenue from forty similar carloads of freight—an entire trainload.

There is hardly a branch of railroad operation in which unit costs have not increased 100 to 300 per cent within the last five years.

MILLIONS FOR NEW RAILROAD EQUIPMENT.

Cars and locomotives which the railroad companies arranged to purchase and finance out of their own resources, without Government assistance, during the first four months of this year:

	Estimated Value as of May 5, 1920
Freight cars	\$27,778
Passenger cars	596
Other passenger train equipment	47
Locomotives	518
Total	\$14,057.400

Section 210 of the Transportation Act, 1920, provides \$300,000,000 which may be loaned to railroad companies by the Interstate Commerce Commission, in order to enable them to increase their equipment and facilities in the transition period following the resumption of private operation.

The Association of Railway Executives has recommended, and the Interstate Commerce Commission has approved, the appropriation of the following sums out of this fund for additional equipment and facilities:

1. For equipment	\$125,000,000
2. For additions and betterments which will promote the movement of cars	73,000,000
3. For improvements on short line railroads	12,000,000
Total	\$210,000,000

Of the \$125,000,000 to aid in acquiring equipment, \$75,000,000 is to assist in the purchase of freight cars and \$50,000,000 to assist in the purchase of locomotives. Priority will be given to loans for refrigerator cars until 20,000 are provided. Priority will be given to freight and switching locomotives over passenger locomotives, the applications for loans to purchase small numbers of locomotives will receive preference over applications for larger numbers in order to distribute as widely as possible this addition to the motive power of the country.

The \$73,000,000 which will be available to help finance additions and betterments will be limited to such as will promote the movement of cars, and will presumably be used largely for additional side tracks, passing tracks, freight yards and terminal facilities, and perhaps for shops and tools to increase the repairing capacity of the railroads essential to keep equipment in condition.

The railroad companies of the country, through the Association of Railway Executives, are making every effort to work in complete co-operation with the Interstate Commerce Commission in order that the funds which it has to loan can be made to provide the largest possible expansion of the carrying capacity of the railroads for the benefit of the public.

A Railroad and Its Tinware

The Los Angeles General Shops of the Southern Pacific Company manufacture annually 150,000 pieces of tinware at an approximate cost of \$20,000. This is one of the many drains on a railroad's revenues of which the general public never thinks, and to which few employees give the proper consideration.

There are two simple ways by which employees may assist in reducing this yearly bill. First, by taking reasonable care of materials given them; second, by returning to the General Stores every scrap of old tin or galvanized iron for which they have no further use, regardless of condition.

The tin shop at Los Angeles is equipped to reclaim and manufacture new articles out of old material at a saving of 40 per cent from the present market figure of new tin and galvanized iron. Whether this saving is accomplished depends upon the co-operation of employees in sending in scrap material rather than throwing it away. At the present time the tin shop has need for more material than is being received.

Coal and compound buckets, oiling and train buckets, engineer's oil cans, sprinkling pots, fusee and torpedo cans, drinking cups, funnels and many other articles of tinware are all necessary adjuncts to a railroad's operation. Measured in dollars and cents, the abuse and loss of these articles are an economic and cash loss, while their intelligent use, and above all their re-use, is an economic and cash gain.

For example, 6850 engineer's torches were issued during 1919. They cost 66 cents each or a total of \$4521. Fifty per cent were returned so badly damaged as to forbid repair. Many were lost from locomotives, and of these but a small proportion were recovered by section hands.

During the same year, the company made 444 coal buckets, 1800 compound buckets, 3600 train buckets, 2500 oiling buckets, 5000 hand lanterns and 70,000 train indicator numbers and letters.

What one man wastes another man must manufacture. And this is no day for wasting material.

We can help in the economic demands upon production by taking better care of new material and sending every bit of old material to the Stores Department.

ADVOCATES INTENSIVE RAILROAD TRAINING FOR EMPLOYEES.

It was found necessary during the war to provide means for intensive practical training on a large scale in order to assure a sufficient supply of efficient workmen and mechanics for our army. The plans were made and put into effect in record-breaking time. Men were given the training in large numbers and with excellent results. The railroads in the present crisis are trying to operate with many employees who have had little training or preparation for the work that they are trying to do. Why not take the bull by the horns and install measures for

giving these men an intensive practical training which will enable them in a very short time to do much better and more effective work? The army authorities in looking about for experts who could head up the movement called upon several men in the railway and railway supply field. Would it not be well in the present emergency for the American Railroad Association to call upon these men to develop quickly such educational measures as will meet the present situation on the railroads? Eventually such a commission could also advise as to a permanent policy which should be adopted by the railroads for the selection and training of all their employees.—The Railway Age.

The Bulletin's Safety Section

SAFETY WORK LIKENED TO BANK ACCOUNT.

By Asst. Supt. E. D. LEAVITT
Tucson Division, Safety Committee

As we all know, the Safety work on railroads, as well as in other large industries, had started and been carried on actively and most successfully for several years before the Government took over the operation of the railroads as a war measure.

Fortunately, the Railroad Administration took the keenest interest in this work and organized it on a much more elaborate scale on all roads than had been the case before, taking a plan of operations very similar to that under which we had worked as their model. Many more meetings were scheduled, especially at terminals, shops, etc., and the meetings made more elaborate in some ways, as, for instance, in the reading of papers, reporting how many persons had been talked with concerning Safety work, erection of Safety bulletin boards, etc., and every effort was made to stimulate the interest in Safety habits, and in the two great accident prevention drives held wonderful results were obtained to show us what we really could do when first attention of all was given to this work.

Under private operation the subject will continue to be held actively before us all, and we should be able to get continuously better results, as a legacy of the work done before. Just as we save money bit by bit, and then the interest begins to add also to our savings and in ever increasing volume, so the thought and interest put into Safety work will prove like a savings account, each effort will give a double result in accomplishing immediate good and starting beside an interest that will add to the original effort to help build up the total good.

We have covered a vast deal of ground with our suggestions and had many hazardous locations and practices remedied, but we have a much bigger field ahead of us, and one that will yield far larger results in getting the men so deeply wedded to the Safety habits that we have been forming in them for these years past that carelessness will become as infrequent a cause of accidents as violations of Rule G are under national prohibition. Safety is a lot like the gospel of salvation, it doesn't yield much in results until it gets into the heart as well as into the head, and when it gets into the heart then the man so blessed immediately wants to get it into the

MORE CARE NEEDED IN HANDLING MATERIAL.

During the year 1919 four hundred and ninety-four employees were injured handling railroad materials, all of which accidents could have been avoided by exercise of proper care.

A few accidents of this class noted last month are shown below:

Machinist—Lifting locomotive binder into box truck, strained disc.

Section Foreman—Was assisting laborer piling new ties. When laborer dropped his end of it turned and twisted foreman's wrist.

B. and B. Carpenter—Was leading bridge timber on push car and over-exerted himself, straining back.

Storekeeper—While lowering box of torpedoes from top of pile to floor, box turned over, catching hand between box and wall.

Crane Helper—Loading switch points from ground to car with crane and took hold of point when it swung against another point in car, catching finger.

Sectionman—While loading ties onto handcar allowed one of the ties to slip, catching finger between two ties.

Freight Car Builder—While rolling a pair of car wheels down track, another pair rolled down on him, pinching left leg.

Carpenter—While handling a timber to repair baggage truck allowed it to strike leg.

Machinist Helper—Was helping to turn submergent leader over on floor and got right foot caught under corner of header.

heart of some other, and so one by one the circle of true believers will grow, and they will be the leaven that will continue to leaven the whole lump from year to year until carelessness and thoughtlessness are finally put into the discard along with Rule G.

The high cost of living has struck a body blow at the railroads. Operating expenses have increased more than a hundred per cent, while operating revenues have increased less than half that amount.

On July 1 the passenger fares on Belgian railways were increased by 10 per cent and freight rates by 50 per cent.

ACCIDENT REDUCTION.

During the month of May there were four employees killed and 618 injured, regardless of time of disability, compared with five killed and 636 injured for the same month in 1919, a decrease of one killed, or 20 per cent, and 18 injured, or 2.8 per cent.

Causes of these casualties are shown in the following statement:

Train Accidents	1920	1919
	Kid. Inj.	Kid. Inj.
Collisions	1	8
Derailments	1	8
Miscellaneous train and locomotive	19	2
Coupling or uncoupling cars	3	1
Coming in contact, while on train, with permanent obstructions	5	1
Getting on or off cars or locomotives	1	21
Falling from cars or locomotives	10	10
Other accidents on or about train	63	57
Struck or run over by locomotives or cars at highway crossings	1	4
Struck or run over by locomotives or cars other places	1	5
Total Train Accidents	4	136
	4	90

Non-Train Accidents	1920	1919
	Kid. Inj.	Kid. Inj.
Use of hand tools, apparatus, etc.	94	111
Handling rails, steel, etc.	30	36
Handling freight or supplies	28	77
Miscellaneous industrial causes	283	310
Total Non-Train Accidents	482	540

Grand Total All Accidents... 4 618 5 636

Of the above mentioned casualties 224 were reportable to the Interstate Commerce Commission, and compared with 217 for May, 1919, the following figures are shown:

	Killed	Injured	Total
May 1920	4	220	224
May 1919	5	212	217
Decrease	1	8	7
Increase			

During the months of April and May it was necessary to cancel sixteen scheduled safety meetings account of unsettled conditions. The failure to hold these meetings, with the resultant relaxation in safety work, is reflected in the small decrease in total casualties compared with same month last year. This is the first time since the Department of Safety was organized, October 1, 1918, that the current month did not show a reduction in injuries reportable to the Interstate Commerce Commission compared with corresponding month of previous year.

Studying Safety Matters at San Luis Obispo

The picture below shows the Coast Division Terminal and Shop Safety Committee in session at San Luis Obispo. This committee is composed of: E. R. Anthony, assistant superintendent (chairman); L. C. Gram, trainmaster; George Merritt, chief dispatcher; J. Jensen, roundhouse foreman; C. F. Christensen, yardmaster; G. L. Hall, car foreman; F. Philbrick, signal maintainer; T. J. Harshbarger, shopman; O. A. Krobs, chairman; H. A. Land, storekeeper, and F. H. Smith, secretary. The large number of visitors are shop and station employees at San Luis Obispo and train and engine men running into this point.



The Sacramento Division Terminal and Shop Safety Committee (lower picture), left to right: E. Fendergast, foreman car department; P. Pisci, yardmaster; F. J. Berry, trainmaster; E. V. Ottwell, electrician; W. L. Hack, assistant superintendent; K. G. McKinney, foreman; L. S. Pratt, master mechanic; G. E. Candlish, brakeman; C. U. Clemens, storekeeper; B. S. Stowers, yardman; Chris Menges, conductor; N. A. Mullins, chief clerk.

EMMA GOLDMAN LONGS FOR AMERICA.

"It is rotten." These three short words express Emma Goldman's opinion of Bolshevik Russia after spending four months in her ideal of "a land of freedom." John Clayton, correspondent for the Chicago Tribune, reports that he spent considerable time with Miss Goldman and Novikov at Petrograd and that he found them thoroughly disillusioned. When he called on Miss Goldman she asked: "What do you think of it? You have been here six weeks? How do you feel about it?"

The correspondent's reply was, "It is rotten—so rotten I am sick with it." With this conclusion the deported anarchist leader eagerly agreed, saying:

"You are right, it is rotten. But it is what we should have expected. We always knew the Marxian theory was impossible a breeder of tyranny. We blinded ourselves to its faults in America because we believed it might accomplish something.

"I've been here four months now and I've seen what it has accomplished. There is no health in it. The state of Socialism or state of capitalism—call it what you will—has done for Russia what it will do for every country. It has taken away even the little freedom the man has under individual capitalism and has made him entirely subject to the whims of bureaucracy, which excuses its tyranny on the ground it is all done for the welfare of the workers."

Miss Goldman seems to have far greater respect for the Stars and Stripes where she is than she had when she was "a radical for profit," engaged in revolution making in America. Mr. Clayton says:

"On the bureau of Emma Goldman's room in Hotel Astoria at Petrograd draped over the corner of a picture of her niece, is the American flag. Emma Goldman, deported from America as an anarchist, makes no apologies for this flag.

"The Communist leaders living at the hotel joke her a little about it, but Emma says:

"That's the flag of my niece's country. I'm going back there some day, for I love America as I love no other land."

Before the Tribune's correspondent departed from Russia Emma Goldman, the ardent supporter of Bolshevism before she had to live under its hideous doctrines, gave him the following advice:

"Be careful what you write if you want to return to Russia. If you don't then hit out from the shoulder and hit hard. You may be called an agent of the capitalistic class by the people in America who don't understand. If you are, tell them we have been here four months and now we know. We have investigated factories, homes and institutions as no newspaper man can be permitted to investigate them and we've found them bad. I know, from my conversation with you, you have gotten at the heart of the matter. It's up to you to tell the American people and tell them 'straight.'"

NEWS ITEMS FROM THE LOS ANGELES DIVISION.

Mr. F. Trumbull, chairman of the board of directors of the Chesapeake & Ohio and the Hocking Valley, died at Santa Barbara July 12 and his remains were taken east in the private car Berkeley, accompanied by a son, Koscoe. Mr. Trumbull was an intimate friend of several Southern Pacific officials and highly respected in railroad circles throughout the country.

E. Donnat, assistant superintendent of the Los Angeles Division, underwent a very serious operation in the San Francisco Hospital July 10th. His many friends and associates are much pleased to hear that he is on the road to recovery.

Passenger travel continues very heavy in and out of Southern California and two and three sections of trains between Los Angeles and San Francisco are a nightly occurrence.

Superintendent Whalen is very proud of his pay check organization, which is made up of wives and sisters of employees of his office, and under the direct supervision of Miss Nellie G. Freeman. Since this new bureau was established about a year ago \$4,000 pay checks 911 in million dollars and distributed with but two errors—both of which were detected and corrected without any monetary loss to any one.

Trainmaster J. C. Goodfellow, having had general charge of work in the melon fields this season, has been granted a leave of absence and with his family is spending his vacation at Santa Barbara. Mr. Goodfellow made a trip to San Francisco, representing the division organization, to extend the sympathy of the division staff to Assistant Superintendent Donnat.

Chief Dispatcher J. A. Day is spending his vacation at Keenbrook, in the San Bernardino Mountains, looking after his interests in a very promising mine.

Agent W. C. Eaton at Brawley reports that gross returns from the cantaloupe movement will give growers approximately twice million dollars. The cotton movement will run about one hundred thousand bales. What is said to have been the first bale of the 1920 crop to be ginned in the United States was hauled here July 17. A large percentage of the crop is long, staple cotton, used in making high-grade auto tires.

Thomas O'Leary, roundhouse foreman, has returned to Santa Barbara after a vacation spent in Idaho and Montana.

R. J. Smith, district freight and passenger agent at Thorne E. Freese, traveling freight and passenger agent, who have been occupying quarters in the Santa Barbara station, are now located in uptown offices.

Business at Santa Barbara continues to increase and the freight house, recently enlarged to double its former capacity, is already too small.

Agent J. E. Sloan at Santa Barbara reports that the Jeffery Flour Company is erecting a modern warehouse there on S. P. Lines and will use it

THE SPIRIT'S THE THING.

Every man who is doing anything worth while will work all the better for having pride in his work. No member of the personnel of a railroad, for instance, is unimportant. If a section laborer skimps his work, soldiers consistently, the road suffers. The man who lumps ties or trims ballast is doing an indispensable work. If he does it well and conscientiously, the road benefits, if he does not, it suffers.

Every railroad employee, from track laborer up, should have impressed on him the fact that his work is important, and that the tools and other material he uses all cost money. He should know how to use his material in such a way as to eliminate waste and breakage, above all, he should be made to feel that whether he remains a section hand or climbs the ladder of promotion, rests entirely with him; that the road is looking for merit and ability, and that if he shows it he will be promoted. It is bound to go ahead—American Ditcher Scoopings.

as a distributing point for adjacent counties.

Charles Cole, Santa Barbara roadmaster, has returned from a vacation fishing trip to Truckee.

Between March 1st and July 1st the Southern Pacific has hauled 483 cars, 48,463,349 pounds of rip-rack from Deezel to Elftman on the San Pedro branch. It is being used by government engineers in flood control construction work in the vicinity of Long Beach.

Agent H. M. Read reports that the average weight per car of lumber loaded at San Pedro during the month of June, 1920, was 74,600 pounds, an increase of 6,649 pounds over the same month last year. One thousand and ninety-seven cars were loaded this year, as compared with 911 in June last year. The increased efficiency in loading resulted in a saving of 107 cars.

Sixteen cars of crude rubber for Akron, Ohio, three cars of hemp for Bridesburg, Penna., and three cars of crude rubber for Denver, Colo., constituted the Southern Pacific's proportion of the first load of freight for transcontinental destinations to move through San Pedro.

Agent E. T. McNeill at Colton reports the following items of interest: James King, superintendent of car repairs for the Pacific Fruit Express Company, has returned from attendance on the Master Car Builders' Convention at Atlantic City.

Dee Freese has succeeded John E. Jolly as baggage man at Colton, the first change in that position in fifteen months.

Additional tracks are to be laid at the works of the California Portland Cement Company, Colton, to take care of the ever increasing cement and lime business.

NEWS NOTES FROM THE COAST DIVISION.

By H. R. HICKS
Superintendent's Office, Coast Division

Harry W. Watkins, assistant engineer maintenance of way department of the Coast Division, has accepted the position of engineer in charge of construction for the Southern Pacific's new one and one-half million dollar building in San Francisco, to be occupied by wholesale grocery firms in the new industrial district at Third and Channel streets.

A. G. Mott, engineer in charge of valuation record work in this office, has accepted service with W. M. Jaekle, assistant engineer maintenance of way and structures. H. A. Scholten succeeds Mr. Mott.

James H. Hays, head clerk to the master mechanic at Bayshore, has the sympathy of his associates in the sudden passing of his mother.

C. A. Hayes, agent at Palo Alto, has returned from a vacation at Yosemite bringing with him a number of exceptionally fine black and white photographs, in which he secured from precarious perches.

Mr. L. P. Hopkins, night general yardmaster San Francisco yard, has been appointed acting supervisor of transportation, Southern district, with headquarters at Los Angeles. Mr. Hopkins began his railroad career on the Coast Division in October, 1906.

The boys of the superintendent's office, Coast Division, have organized a baseball team and played their first game at San Jose July 18.

Southern Pacific department baseball teams desiring games will communicate with H. I. Stearns, care of superintendent Coast Division, San Francisco.

C. W. Draa was awarded first telegrapher-clerk position at Napa, vice L. V. Cox, who transferred to the Coast Division.

B. F. Neu was awarded third trick telegrapher-clerk position at Benicia. Mr. Neu vacates telegrapher-clerk position at Bay Point.

W. P. Witter has been awarded chief clerk position at Martinez.

A. V. Peterson, formerly night chief yard clerk at West Oakland, was awarded day train clerk position at West Oakland.

O. L. Sisk, head clerk Maintenance of Way Bureau, Superintendent's Office, Oakland Pier, is enjoying his annual vacation with his parents in Texas.

Pens should not be thrown away after being used a short time; any accumulation of dried ink, etc., should be scraped off, or by use of pen wiper or sponge and then kept clean and continued in use. A single pen should, if properly cared for, last for two months in continuous service and four months for average service.

DISTINGUISHED SERVICE ORDER

IS YOUR NAME HERE?

Below will be found the names of Southern Pacific employees who, in the ordinary course of their daily affairs, by ordinary special act of heroism or enterprise, contributed to the successful operation of the railroad in a manner that warranted recognition from their respective superintendents:

WESTERN DIVISION.

E. L. Losee, Engineer, Esparto—For exchanging engines with passenger train when engine became disabled and making repairs to disabled engine on the ground. In order to make repairs it was necessary to kill engine and rebuild fire. Such cooperation reflects very creditably.

H. Menzies, Engineer, Sulvan—For prompt action taken to extinguish fire in large field adjacent to track by turning blowoff cock same.

F. W. Gundlach and E. A. Corwin, Engineers, West Oakland—For prompt corrective measures taken when they observed a piece of lumber shifted on car and protruding out, obstructing adjoining track, creating hazard of injury to damage.

G. V. Mauer, Conductor, Kenwood—For discovering brakebeam down in passing train and promptly notifying crew to the defect. Close observation of passing equipment for such defects is a very commendable practice.

R. M. Emerson, Fireman, Esparto—For assistance rendered in making repairs to disabled engine and rebuilding fire in engine, minimizing delay to trains.

F. I. Hightower, Brakeman, Kenwood—For observing brakebeam down in passing train and giving stop signal to train crew.

C. D. Butler, Section Foreman, Dixon—For promptly notifying dispatcher when he observed smoke emerging from truck of passenger car in passing train.

A. H. Nave, Switch Tender, Santa Fe Junction—For detecting hot box on car in passing train and promptly communicating the signal by signal to the train crew.

A. Sandgren, Car Inspector, West Oakland—For keen and vigilant inspection of equipment which resulted in the discovery of loose wheel on passenger car.

Frank Ruddy, Bombmaker Helper, West Oakland—For commendable action taken in attempting to reverse engine which was backing from roundhouse unmannable.

D. F. McDade, Mechanic, West Oakland—For observing cracked main axle on engine while making repairs and reporting it to foreman.

F. H. Bopart, Machinist, West Oakland—For close attention in the performance of his duties which resulted in the discovery of cracked main pin on engine.

SALT LAKE DIVISION.

W. L. Taylor, Jr., Brakeman, Montello—For meritorious action in finding a broken rail between switches and handling in such manner as to prevent the hazard of an accident.

L. C. Leavitt, Switch Tender, Montello—For discovering a cracked archbar in car in train, which in all probability saved an accident.

F. Godfrey, Brakeman, Clester—For discovering a broken rail in spur leading to a quarry and all probability avoiding accident. Work of this kind is an achievement.

LOS ANGELES DIVISION.

Gus Simis, Section Foreman, Durmid—For action taken in noticing piece of timber sliding

off end of car in train and promptly notifying crew of the fact, with result that hazard condition was remedied.

J. W. McNetney, Engineer, and C. P. Bassett, Fireman, Pomona—For prompt investigation when finding black signal at stop position, with result that they found threads on cross-over switch bent and switch points not up against stock rail, promptly notifying section foreman and dispatcher in order that repairs could be made and a hazardous condition corrected.

R. H. Averill, Operator, Glamis—For close attention to duty in noticing bad leak in oil car in train passing station, leading message to conductor as caboose passed station, which resulted in train being stopped and repairs made as far as it was possible for train crew to do so.

C. W. Noel, Agent, Edom—For discovering brakebeam down on car in head end of train, signaling train crew to stop, resulting in repairs being made and hazardous condition remedied.

I. B. Gutfredson, Conductor, River Station—For volunteering to act as brakeman on an important train, thereby avoiding delay of train. The spirit manifested in this case is certainly commendable.

E. E. Ruhl, Brakeman, Montalvo—For discovering broken rail on siding, taking the necessary action to stop train, and again reporting the matter to his conductor and being reported in turn to section foreman.

B. C. Chene, Engine Herder, Colton—For discovering broken rail in main line about one mile south of rank. No black signal did not clear, walked up main line about one mile and discovered this broken rail, notifying section foreman in order that condition could be remedied.

SACRAMENTO DIVISION.

H. E. Sprague, Conductor, Spruce—For detecting a broken flange on car being handled in passing train while the train was undergoing inspection.

H. H. Knott, Telegrapher, Floriston—For promptly notifying train crew which enabled the section gang to be called and fire extinguished before causing damage to company property.

A. L. Bachar, Section Foreman—For using his own initiative in repairing track on section adjoining his own in case of derailment, thereby saving great delay to traffic.

A. Delgrande, Section Foreman, Verdi—For finding twelve inches of flange, notifying the dispatcher in order that train could be inspected and car located from which flange was missing before damage could be done.

A. F. Smith and R. H. Owens, Signal Maintainer, Colton—For close attention in watching the train, whereby they took turns at holding nozzle of hose and became drenched on account of hose line on top of sheds.

C. F. Blewett, Brakeman, Tudor—For watching his train by detecting wheel on car binding, preventing a derailment, thereby enabling a close watch to be kept on defective car until such time when same could be picked up, thereby preventing possible damage to company property.

J. R. Roberts, Yardman, Sacramento—For voluntary service rendered to engineer in discovering cracked brakebeam on engine which had become disabled.

George Fellbaum, Yardman, Sacramento—For assisting engineer to discover cracked brakebeam on engine which was disabled, such assistance being rendered very promptly.

S. S. Woods, Yardman, Sacramento—For rendering voluntary assistance to engineer in getting stuck train moving when an accident occurred to another train.

Antonio Breslin, Section Foreman, Edgewood—For assisting in getting stuck train moving when an accident occurred to another train.

W. E. Loy, Conductor; Walter Long and T. A. Alstrider, Engineers; and M. Hoskins, Fireman; J. H. Philpot and R. B. Gray, Brakemen; Edgewood—For valuable assistance rendered another crew in retreating caboose, such assistance materially reducing delay to that and other trains.

H. W. Banfield, Engineer, and W. H. Winters, Fireman, Delta—For the manner in which they performed their work when engine was disabled on their train.

L. R. Westlake, Signal Maintainer, Delta—For observing broken rail in main line which materially reduced delay to train.

F. H. Hall, Brakeman, Conant—For discovering a broken rail on pole on fire and splendid service rendered in extinguishing same.

disconnecting brakebeam on engine which had become disabled.

D. L. Johnston, Agent-Operator, Cisco—For watching a train closely by station and detecting wheels sliding on one of the cars, giving a train stop signal which resulted in train being stopped and brakes released.

W. L. Mason, Agent, Soda Springs—For watching train by his station, detecting wheels sliding on car, giving stop signal which resulted in train being stopped and brakes released.

SHASTA DIVISION.

Paul Walter, Operator, Kennet; R. Smith, Engineer, Small; W. A. Thaxton, ex-Gang Foreman, Crocker—For close observation of passing trains, noting a brakebeam dragging and advising train in charge which enabled repairs being made.

A. McCann, Engineer, Gregory—For watchfulness which resulted in observation of large piece of flange end truck and his prompt action in reporting the discovery to dispatcher, which enabled him to have other trains stopped and inspection made and broken wheel located.

J. T. Dwice, Brakeman, Mistletoe—For close observation of his train which resulted in discovery of several inches of flange missing from a car.

C. J. Foley, Conductor, Delta—For assisting in getting stuck train moving when an accident occurred to another train.

Antonio Breslin, Section Foreman, Edgewood—For assisting in getting stuck train moving when an accident occurred to another train.

W. E. Loy, Conductor; Walter Long and T. A. Alstrider, Engineers; and M. Hoskins, Fireman; J. H. Philpot and R. B. Gray, Brakemen; Edgewood—For valuable assistance rendered another crew in retreating caboose, such assistance materially reducing delay to that and other trains.

H. W. Banfield, Engineer, and W. H. Winters, Fireman, Delta—For the manner in which they performed their work when engine was disabled on their train.

L. R. Westlake, Signal Maintainer, Delta—For observing broken rail in main line which materially reduced delay to train.

F. H. Hall, Brakeman, Conant—For discovering a broken rail on pole on fire and splendid service rendered in extinguishing same.

STOCKTON DIVISION.

Benjamin R. Hislop, Telegrapher, Stockton—For close attention given passing train, resulting in discovering wheels sliding flat and prompt action taken to notify train crew of this condition.

Louis J. Ventre, Brakeman, El Pinal—For interest displayed in lending assistance to conductor of another train in making repairs to hot box.

Thomas J. Shottwell, Station Baggage Man, Modesto—For prompt action taken in stopping passenger train in order to prevent fire which was discovered in box car.

Charles Pritchard, Pumpman, Galt—For prompt action in stopping train when discovering brake beam dragging.

W. C. Ridsdon, Conductor, and R. N. Huntley and C. K. Schoppert, Conductors, for excellent services rendered in sanding stock cars instead of waiting for section men to arrive to do this work, thereby saving additional delay and expense.

Two engineers, three engine firemen, four brakemen, and one section hand, all of whom were taken in assisting in extinguishing fire on train. Those commended: Zack R. Hall, David B. Bansked, L. Edmond, Routh, Charles A. Updinger, William C. Jacks, Fred A. Brewster, Martin Hays, Walter E. Pope, Don W. Patrick and John E. Cassady.

James Andrews, Carpenter, Acampo—For interest shown in safety of train operation, detecting defective car, giving proper warning to train crew, resulting in train being stopped and thereby avoiding serious hazard of accident.

Fredrick B. Smith, Engineer, and Frank H. Irwin, Fireman, Delta—For excellent service rendered in backing engine into position, giving en route, thus enabling engine to take train.

Chris Husson, Section Foreman, Elk Grove—For interest displayed in making repairs to

switches and signal apparatus, thereby avoiding delay to passenger train.

John E. McCall, Section Foreman—For discovering brakemen down under car and signaling train crew to stop and make necessary repairs without resultant derailment and delay to traffic.

William F. Davis, Fireman, Lodi—For vigilance displayed in discovering brakemen dragging and taking necessary action to stop train and avoid hazard of accident.

Frederick E. Cox, Telegrapher—For prompt action taken when discovering erroneously routed car.

COAST DIVISION

Frank E. Weber, Engineer, San Francisco—For exceptional initiative and initiative in connection with handling of runaway locomotive.

Wm. R. Wilder, Conductor, Joseph M. Laird and Earl L. Murdoch, Brakemen; Wm. H. Rucker, Engineer, and Wm. S. Poretti, Fireman—For very valuable assistance in clearing main line after derailment.

Wm. L. Wilson, Flagman, Gilroy—For noticing brake beam and rod down on passing freight train and signaling conductor in caboose.

G. Martin, Signal Maintainer, San Miguel—For exceptional service in clearing dispatching telephone wires at time of wire trouble.

SAN JOAQUIN DIVISION

Edwin H. G. Buck, Conductor—For displaying close attention to duty and exercising extraordinary vigilance in discovering broken rail and reporting same to the proper officer so it could be changed.

E. Gellison, Operator—For discovering broken rail in main line, reporting same so it could be repaired promptly and taking immediate action to protect traffic.

F. Zuber, Engineer, and E. McDonald, Fireman—For repairs to oil feed line on engine and assisting in clearing track after encountering a slide in Tunnel 7, Train No. 49, minimizing delay to this important passenger train.

J. A. LaFayette, Conductor; W. O. Gernehr, Engineer; A. F. Hengel, Fireman; O. Eger, W. B. Cooke, and J. E. Christy, Brakemen, Bay Point—For assistance rendered in combating fire which menaced several oil conducting pipes carried on wooden trestles. Had the fire been allowed to spread to the pipe lines and would have resulted, and such work is highly commendable.

I. C. Mather, Train Checker, West Oakland—For vigilance in detecting car under load which was billed as an empty. The discovery of this error no doubt saved excessive back haul and delay in the shipment and is much appreciated.

T. A. Arey, Conductor, and J. H. Campbell and C. E. Gough, Engineer—For Shaw, Fireman; L. N. M. Gough, Engineer—For assistance rendered in extinguishing fire which threatened destruction of the bridge. It is very gratifying to know employees take such a live interest in protection of company property.

GOLDEN RULE APPLIES TO RAILROADS.

E. McFadden, agent at Davenport, Cal., has sent The Bulletin an attractive booklet entitled "Through the Meshes," the house organ of the W. S. Tyler Company, Cleveland, Ohio, in which an interesting article on the railroad situation concludes with the following paragraph:

"We can't expect the railroads to do well by the country unless they can do well by themselves. Men do not part with their money unless they are reasonably sure of getting it back, and with a profit. The only transaction worth while is one that is mutually profitable. This is the golden rule of modern business, and the railroads must try to take profit out of the hide of the other fellow is riding to ruin."

THE STORY OF THE PIONEER S. P. DIVISION.

(Continued from page 5)

alarm of fires. This precaution is in addition to the complete fire alarm system, lookouts and patrolmen within and on top of the sheds. The operating difficulties of moving trains over a single track staff territory is apparent, and, as a shed fire burns at the rate of 100 feet a minute, time saving is therefore the essence of efficiency.

What Stevenson Said.

When blizzards and slides affect the line all efforts are concentrated on the task of keeping the line open for traffic. Summer and winter, night and day the work goes on—the freight is moved and the passenger speeds upon his way, little realizing the army of men who have made possible the comfort and safety of his journey, but we trust he will say as Robert Louis Stevenson said:

"We changed cars from the Union Pacific to the Central Pacific line of railroad. The change was doubly welcome; for, first, we had better cars on the new line. The cars on the Central Pacific were nearly twice as high and so proportionately airier; they were freshly varnished, which gave us all a sense of cleanliness, as though we had bathed."

Tonnage trains of 5000 Ms leave Roseville with Mallet engines ahead and a helper engine cut in twelve or fourteen cars ahead of the caboose and make the first lap to the snow line of the Sierras to Colfax, thence operating along the double track alignment of the original Central Pacific from Colfax to Blue Canon. This section of second track was completed in 1914. In this construction operation was simplified through building Tunnels Nos. 33 and 34, which eliminated the handcar company and the Cape Horn, one of the historic construction features of the early builders. Trains on their first trip through these tunnels dubbed the change "The Panama Canal."

"Longest House in the World."

Blue Canon, at the eastward end of the double track, finds our train at an elevation of 4693 feet, encircling with its forty-five car length this station well known to every traveler on our line. Here our train heads into what the engineers term "The Longest House in the World"—the snowsheds. From Blue Canon to Summit (elevation 7017 feet) twenty-six miles of single track on a maximum grade of 2.2 per cent. The helper is cut out at Summit and train descends the 2 per cent grade into Truckee and thence on the double track to Sparks. This mountain district, over which a monthly tonnage of 150 million gross ton miles is handled, is as unique from an operating standpoint as is the history connected with the route. Iron rail of the early days gave way to light steel, which in turn gave way to the heavy rail, ties and rock ballast to

withstand the ever increasing weights of power and equipment which also necessitated an increasing dimension of tunnels.

Train dispatching on the Sierra Nevada Mountains is done by telephone; the dispatcher is in direct communication with each staff office. Our staff system is the safest, surest and quickest means of dispatching trains that has yet been devised.

The growth of the Sacramento Division is reflected by the following comparisons: When the Central Pacific started operation of transcontinental trains it had a total equipment of eight locomotives, eight passenger coaches, four combined mail and baggage cars, thirty box cars and thirty platform cars, all of small dimension. This would provide equipment for only one passenger train and one freight train of today. Combined it could be hauled over the Sierras with one Mallet engine. An army of 4500 employees is required to serve the 260,000 people residing on the main line and branches of the Sacramento Division.

Old records show the payroll in 1867 was approximately \$6750 per month, while the division payroll today for one month is \$675,000, which would total in a year an amount equal to the entire sum for which the Central Pacific Railway was originally capitalized.

And yet we are growing!

HERE'S A NEW WAY TO WATCH YOUR TRAIN.

An automobile and an airplane were pressed into emergency service by Dining Car Conductor W. Shields on Train 49 from Los Angeles to San Francisco recently when he found himself left at Fresno. Shields was securing change of train ticket office when his train pulled out.

A chase of two miles in an automobile proved futile. Just as the conductor was about to give up he saw an airplane preparing to ascend from a nearby field. He hurried over and explained his predicament to the pilot and a woman passenger.

"Hop in," they said, "we'll get you there!"

The airplane raced over the train. Shields waved frantically.

The engineer peered out of the cab window and responded but he did not recognize the conductor, nor did he slow down. The race ended at Chowchilla, where the train stopped and Shields boarded the diner in time to attend the breakfast service.

The life of stamp pads is indefinite if properly cared for. They should be scraped periodically with a pen-knife or other instrument for the purpose of removing dust and dirt and then re-inked, using only enough ink to make clear impression with stamp. Old stamp pads should be turned in exchange when obtaining new.

Rough and Ready was the Early Day Motto

Railroading a half century ago on the Sacramento Division of the Central Pacific took brawn as well as brain

By T. R. JONES, former Supt. Sacramento Division

I was employed as a telegraph operator on the Sacramento Division of the Central Pacific Railroad on May 1, 1872.

In Sacramento at breakfast time on that date I had no more idea of becoming a railroad man than of becoming a tragedian.

As frequently happens in the life of a young man the aim and ambition of his future life is changed by the unexpected meeting and remarks of another person and he is sent in another direction. Probably it was opportunity knocking at my door.

The position of postmaster in the Assembly of the State Legislature, which I obtained through the political influence of a friend, had become no more by the session coming to an end.

I was looking for employment. An application I had made to the manager of the Western Union office had been turned down and I was trying to get in touch with "Van." He was J. L. Vandenberg, superintendent of the A. and P. Telegraph Company, to whom I intended to apply for a job "Van's" office was in his hat. If you could find that you would find him. He seldom removed his office from his head. I heard he had a large tumor on the top of his head. That maybe was the cause. He was constantly on the go between Oakland and Ogden looking after wire trouble and was hard to locate.

On J Street that morning I met a State official to whom I mentioned my intentions. He informed me that he was well acquainted with Colonel J. W. Bowen the superintendent of the Sacramento Division of the Central Pacific, and that he had just come from the depot. While there he had overheard the dispatcher inform Colonel Bowen that the division was short two operators. I immediately went to the depot at Front and J Streets.

It was a long rambling one-story wooden shed-like structure nearly a block long. At its north end, next to the bar and lunch counter, were two offices, one for the superintendent and the other for the telegraph office, both with their doors open to the public.

I found Colonel Bowen a very affable man and after stating my business was immediately turned over to the chief dispatcher, or rather the dispatching force, which was Ned Hight.

It took him about three minutes to

Responding to our request, Mr. T. R. Jones, formerly superintendent of the Sacramento Division, has written an article for THE BULLETIN giving his interesting experiences in the old days of railroading on the Central Pacific. These reminiscences are so well written and comprehensive that the article will be given in three installments, the latter appearing in the September and October issues. Mr. Jones has furnished a vivid picture of the early days and BULLETIN readers will no doubt read this and the subsequent issues with pleasure.—THE EDITOR.

hire me, take my name, write out a pass and direct me to take the train to Rocklin to work there as night operator.

I did not have to make out a personal record, furnish a stamp, undergo a medical examination, nor state my experience as a telegrapher. I suppose it was taken for granted that I could fill the place or I would not apply for it.

Made Good on Nerve.

Some years later, when superintendent of the division, I sometimes admired the nerve I must have had to apply for a job as a railroad telegrapher. I was little more than a lad in my teens; there were signs of an incipient mustache on my upper lip that has since become an array of gray bristles; I had never been inside of a railroad telegraph office; never had heard the "27" of a train nor the "13" to a train order, and did not know such things existed; I had traveled less than 500 miles on railroad trains and had no idea of the methods by which they were run, and my experience as telegrapher was limited to a few years in a Western Union office in a small mining town, where an average of a message a day would make a big month of business. I frequently made six dits instead of five for a P, which is the attribute of a "plug." But I found out later that expert handling of key and sounder did not count for as much as reliability. The operator always on deck and answering his office call promptly stood a better chance of holding a job than the expert who could handle "A. U. B." as a press report was then called.

I was on hand when the train arrived early in the afternoon. I emphasized the term the as used by Dispatcher Hartwell, for it was the only passenger train going East daily. Only one passenger train each way was run daily over the division. This was composed of mail, baggage and express cars, sleepers, smoker and coaches. The sleepers were run ahead of the coaches. All the cars were painted yellow.

The two passenger trains were through trains, but made stops at all stations and did all the local work. Engines assigned to these runs were, as compared with the Mallet of today, pygmy eight-wheelers. Two crews were assigned to these trains between Sacramento and Truckee. Up one day and down the next. The second-class passengers were then called emigrants and rode in emigrant cars, somewhat better than stock cars, attached to the rear of through freight trains Nos. 5 and 6.

Bar Most Popular Spot.

All freight trains carried passengers in their cabooses. The depot at Sacramento had a long bar and short lunch counter. A large number of passengers got off on the arrival of the train, most of whom went to the bar to get a drink while a few purchased and ate sandwiches.

The probable cause of this was the passengers had dinner, as the noonday meal was then called, at the depot. The bar was the place where bound passengers took dinner at the Roseville eating house before arriving at Sacramento, this station was not a regular eating house, hence the limited accommodations. It was managed by a political friend of Governor Stanford, and like a number of others was probably given a profitable privilege on that account.

While waiting for the train to start an amusing incident occurred.

On account of its animosity and the personalities published against the company and its directors, the Sacramento "Union" was not allowed to be sold by newsboys at the depot. A five-board fence along the platform extending to I Street kept them off the north end of the depot while Special Officer Fred Burke with a heavy cane patrolled and kept them from the south end and from climbing the fence, which they frequently did when he was out of sight. The passengers were anxious to buy and read the paper and I saw a couple of them beckon to "Hash," Harris Ginsberg, afterwards an attaché of the superintendent's office, one of the news-

boys looking through the fence for a paper. He could not resist the opportunity to make a dime or two so tumblingly climbing over the fence, he took a chance. He had just made the sale when Fred Burke came in view, moving northward.

"Hash!" made a dash for the fence, which attracted Burke's attention, and he made a rush too. Just as the largest and heaviest part of "Hash's" anatomy rose up to go over the top board it received a resounding whack from the officer's cane that caused a roar of laughter from the onlookers.

I got on the train when the conductor, Captain G. T. Witham called "All Aboard" and standing on the coach platform saw him gracefully step on after the train was in motion. The last person to speak to him as he signaled with uplifted hand the engineman to start was a young man named Harry Breckenfeld, who came out of the superintendent's office with a letter, which he handed to the conductor with a few words of information. As I saw the conductor hand this letter to John Muir, the agent at Rocklin, on arrival there and heard him say there was a night operator on the train for him, I supposed the letter referred to me, hence my recollection of the incident.

I learned afterward that young Breckenfeld, then in his teens, was the chief clerk, or in fact the whole clerical force, of the superintendent's office. That he made up the payrolls, handled the correspondence (in long hand), conductors' reports and supplies kept a record of every car moved on the division and besides being a telegrapher performed numerous other duties essential to the business at headquarters. The force there then consisted of a superintendent, clerk, train dispatcher, a day and night operator, a janitor who was ex-officio messenger boy and a night watchman who fired up the wood-burning stove in winter for the night operator. Captain Witham was not in uniform. He wore a slouch hat and a gray suit of clothes. He had side whiskers and a military demeanor that well fitted his title. He seemed to know every man on the train by his first name and where he was going before he took up his ticket. The upper pockets of his vest were bulging with cigars of different sizes and brands. He refused to accept a dozen or more offered him by the passengers, who saluted him as "Cap," giving as a reason he had enough to last him until he returned from Truckee.

No Ban on Smoking.

I afterward saw one of the other "old reliable" passenger conductors pass through a coach taking up and punching tickets while holding a lighted cigar between his teeth, which he did not remove to either expectorate or flip off the ashes or talk while in the coach.

I learned subsequently that Captain Witham on account of his courteous

manner, strict attention to duty and his success in getting his trains over the road on time, stood high in the estimation of the officials of the company and the traveling public.

I went on duty at 6 P. M. to be off at 7 A. M. I received no instructions from the agent, he probably thinking I would not have been sent there if I needed any, and I, in my ignorance and egotism, did not think I needed any. Fortunately for me only one train passed through Rocklin that night and I had no train orders to handle.

When the conductor of the train handed me the "soup ticket" showing No. 8 arrived and departed on time with a stated number of cars I wired as a message every word from beginning to end on the ticket to Sacramento and received in return the unsatisfactory comment of "Ha ha! Where in h— did you come from?"

It was the duty of the night operator at Rocklin to lock and seal and make a report to the freight auditor at Sacramento of the merchandise arriving on the way freight from the East when it came in after 6 p. m. If it arrived before that time the work was done by Dick Moore, the office boy—now a veteran passenger conductor. The second night I was there the train came in late, so, with the ladder, seals and sealing iron, I essayed to do the work.

Just as I reached and prepared to seal the first car an engine coupled on the east end and away went the train to the other end of the yard. I saw it stop, and, thinking it was going to get away with the cars unsealed, I hastened after it. Just as I reached it away it went back to where it had been taken from.

I went after it again and then I was informed it was being switched. When it was made up I obeyed instructions to lock and seal all cars that did not contain lumber or wood. I did not take a list of the box cars I sealed, but knowing that every one except those loaded with lumber or wood had been sealed, I took the yardmaster's record of the train and made the report for the freight auditor from it. Unknown to me the yardmaster had added about ten flat cars loaded with granite to the train list and I duly copied their numbers and reported them as loaded and sealed. Had I known then that the box cars carried even and the flat cars odd numbers I would not have made the error. When the next day the freight auditor returned the report for correction with it a sarcastic letter I had an opportunity to tell J. A. M. how little I knew about railroad business. He kindly and patiently took me in hand and gave me suggestions as to how to better perform my duties that I made no further errors and had no further trouble. Shortly afterward I was transferred to Truckee. On this, my first trip over the division to and my sojourn at Truckee, I learned more from observation of the practical operation of trains, from contact and conversation with my fellow employees in

the different departments of the work than I before had considered it possible for any one man to know and that railroad service was a serious and arduous vocation.

When the Central Pacific was being constructed it was short of funds. To save the expense of erecting depots at the important stations a plan was devised to let others do it. To a number of popular caterers was given the privilege of building the depots and maintain therein a barroom and eating room and then partition off, usually at one end, rooms for the company to use as a ticket and telegraph office and a waiting room. This privilege was given at Roseville to J. R. Watson and a former French chef, Louis Bulgens; at Rocklin to Dana Perkins Sr.; at Pino to James Loomis; at Auburn and Colfax to Curley & Mahon; at Alta to Senator Bonvard; at Blue Canon to L. G. Peterman; at Summit to Jim Cardwell and at Truckee to John F. Moody. The depots at Blue Canon, Summit and Truckee were also hotels. I have understood this arrangement in subsequent years caused the officials of the Southern Pacific Company much trouble when they tried to close up the barrooms and stop the selling of liquor at the stations. No written deeds or leases existed, as the agreements were verbal ones made by Charles Crocker, superintendent of construction, with the depot owners. As possession is nine points of the law, no legal means were found to remove them. Finally, one by one, most all of them were burned down and the company, refusing to allow them to be rebuilt, solved the problem.

The wood sheds west of Blue Canon were located, evidently by design, at a proper distance east of these depots, so that while the engines were being wooded up the passenger cars stood in front of the depot. Thus the owners had an opportunity for the passengers to loiter and refresh themselves in the barrooms, while away the time until the engines were ready to start and not kick at the delay. Everybody seemed satisfied and we who remember the old-timers of California and Nevada who traveled on the trains in those days know that an oasis on the line of the road could not be of too frequent an occurrence.

I mention this condition so that the long stops at these stations on my trip to Truckee will be understood. Leaving Rocklin in the afternoon the first stop was at Pino, a few miles east. The name of this station has since been changed to Loomis on account of its proximity to Reno, causing overs and shorts of freight. The Sacramento engine was wooded up here. The wood in the Pino shed was cut in that vicinity and hauled up by teams to the shed.

(Mr. Jones' article will be continued in the September number.)



REVISED CAR SERVICE PAMPHLET ISSUED.

The volume of freight moved by the Southern Pacific Company and the total revenue derived therefrom depends upon the proper handling of cars. This item in railroad operation is now of vital importance under existing conditions when a sufficient number of freight cars is not available to fill the demands of shippers.

Co-operation on the part of every company employee who has anything to do with the movement of freight cars will assist materially in obtaining 100 per cent efficiency with the equipment now on hand. Mr. R. L. Ruby, Assistant Superintendent of Transportation, in a letter to division superintendents, referred to the revised pamphlet on car service and per diem rules as follows:

"The proper handling of cars is a very important item and great economies are possible where care is taken to make the best possible use of the equipment, including prompt loading and unloading, avoiding empty haul when possible, loading to full capacity, proper disposition of foreign cars, etc. The earnest co-operation of all concerned is requested, to the end that satisfactory results may be accomplished."

Rules 1 to 3 inclusive in the pamphlet are of particular importance. Briefly they provide that system cars must not be used for loads beyond system lines when suitable foreign cars are available; foreign cars belonging to direct connections must be forwarded to the owner, loaded or empty; or may be returned to the road from which last received loaded, if such road is a direct connection of the owner. Back haul for load is permissible.

Foreign cars belonging to other than direct connections must be loaded to or in direction of the road which owns the car and may be back-hauled for a load to a point beyond our line. If return movement empty is necessary cars may be delivered empty to road from which last received loaded, if such road forms a part of a direct route to the home road; or, they may be delivered empty to a road forming a part of a direct route to the home road (subject to equalization of inter-

Of Special Interest to Agents

WHERE CARELESSNESS COSTS MONEY.

Failure to watch the small things in the course of the day's work often results in heavy loss to the company. For example:

There was a shipment of metal automobile parts from the East to a point on the Southern Pacific. At transfer point damage to 319 radiators was not noted on waybill. Shipment at destination clearly showed that most, if not all, of the damage existed previous to transfer to Southern Pacific. Yet failure of agent to properly check the shipment will cost company approximately \$300.

The agent at a transfer point neglected to seal end door on car or fasten it in accordance with instructions and conductor failed to examine car for seals while in train. Loss through theft will cost company \$29.50.

Improper inspection and preparation of equipment previous to loading resulted in a claim for \$127.09 on a local carload shipment of walnuts. Protruding nails and bolts were not removed or padded.

Failure to keep and record on carload shipment of automobiles will cost the company \$832 for shortage of parts. The agent at destination neglected instructions.

The company is forced to pay \$1,650 for an accident and shortage of automobile parts because the agent at destination neglected to keep a seal record.

Improper inspection of automobile shipment at junction when door had shifted by door post and was loose at the bottom, cost the company \$97.02.

NEATNESS EARNS RESPECT, SAYS AGENT'S WIFE.

A bit of philosophy offered by a Bulletin reader who writes under the title "An Agent's Wife," is well worth handing along, not only to employees who have charge of company property in smaller stations, but in every department of railroad work.

She says: "It takes only a little bit of time before settling down to the day's routine of business to make everything spick and span. People who come in to transact business over the counter are more polite when they see the agent and his surroundings neat and clean."

"You are treated with more respect and courtesy by your patrons. A man does not have to wear his best, either—just wear your working clothes and keep them brushed up and you won't look half bad. There should be enough pride in the heart of every railroad man to keep the premises under his jurisdiction right up to the minute."

CONDUCTOR COMMENDED FOR SERVICE TO PUBLIC.

The value of unflinching courtesy and interest in the welfare of passengers as a Southern Pacific asset is illustrated in a letter received recently by Charles S. Fee, passenger traffic manager, from Mr. H. J. Snyder of Palo Alto.

Mr. Snyder made a trip on June 19 from San Francisco to Palo Alto and noticed the very courteous manner in which the conductor advised the passengers the exact number of stops before reaching their destination.

This information was given at the time of taking up the hat checks. The conductor was also careful to note and to ask if he could be of any assistance where he thought the opportunity existed. Mr. Snyder says.

J. E. Farley was the conductor commended and his example may well be followed by all who desire to maintain the high standard set by the Southern Pacific for service rendered the public and its patrons.

Mr. Snyder refers in another part of his letter to a woman passenger, seventy-three years old, who made a trip from Porterville to Palo Alto, being obliged to make three changes and get on and off trains eight times without being offered a helping hand by any of the train men.

This, we are certain, is the exception to the rule, but it shows that lack of proper attention on the part of the employees is noticed by the public and does not tend to make an unfavorable impression.

change balances monthly by classes at each junction).

Attention is also directed to Per Diem Rule 15 regarding reclaiming per diem on cars held for connection lines on which no embargo has been placed and notice to connecting line that is necessary in connection with this rule.

The pamphlet also contains instructions with reference to daily telegraphic car reports; switching reports; interchange reports; interchange correction blanks; orders for cars wanted for loading; daily report of cars on hand; conductors' freight car reports; passenger conductors' car reports, and report of carloads trans-ferred.

Prize Contest on Loading Cars

Three months' competition announced to increase service to public

Announcement is made by General Manager J. H. Dyer that unless more economical use is made of equipment the railroads will be confronted with a car shortage more acute and of longer duration than ever before experienced, and, to stimulate improvement, a campaign in car loading will begin on August 1, 1920, under the following conditions:

Competition to cover one period of three months, from August 1 to October 31, 1920, for carloads only, at stations handling at least forty carloads of revenue freight outbound during the period.

The following commodities enter into the competition:

1. Barley.
2. Beans and peas.
3. Beets.
4. Brick.
5. Canned goods.
6. Cement.
7. Dried fruits.
8. Hay.
9. Lumber (excluding logs).
10. Mill stuffs.
11. Ore, lead and bullion.
12. Perishable refrigerators.
13. Perishable—other freight.
14. Potatoes.
15. Sugar.
16. Wheat.
17. Beverages.

Standards of measurement will be the system average tons per car and percentage of load capacity obtained for each commodity during corresponding period of the year 1918.

For the purpose of competition, beginning August 1, 1920, five credits will be allowed each station for each ton per car increase over system average for corresponding period of 1918 and two credits for each per cent of increase of load to capacity; lesser increases in proportion, and award will be made to agent at station earning highest number of credits for each commodity considered.

A separate circular will be issued shortly giving the per cent of carload to car capacity and average tons per car for each commodity for the 1918 period with examples that will illustrate the scope of the competition.

For each item in the above list a first prize of \$50 and a second prize of \$25 will be awarded.

An additional prize of \$15 will be awarded the agent at the station which makes the greatest improvement when each station is compared with its own record during corresponding period of 1918.

If prizes are awarded at stations where there have been two or more agents in charge during period of

contest they will be prorated according to length of service of each agent at that station during the period involved.

No commodity will be considered for first prize unless at least three stations on the system load ten or more cars each of that commodity during the period.

No commodity will be considered for second prize unless at least three stations on the system load five or more cars each of that commodity during the period.

In the award of first prizes no station will be considered unless at least ten cars of the commodity under consideration are loaded at that station during the period, but a station loading as many as five cars will be eligible for second prize.

Every possible means must be employed to obtain actual weights, and, where not obtainable, care must be taken to use fair reporting weights. Prizes will not be awarded on the basis of estimated weights which are found to be at considerable variance from weights shown on waybills.

MORGAN LINE NOT AFFECTED BY RECENT RULING.

To correct an apparent misunderstanding among shippers, agents should explain that the Southern Pacific's recent application for permission to operate its Atlantic steamship lines between points on the Atlantic seaboard and the Gulf coast, which was denied by the Interstate Commerce Commission, had no reference to the regular Morgan Line service, but was merely a request to be allowed to render occasional service between outlying ports and New Orleans and Galveston and also to render occasional service to the port of Houston whenever there was tonnage in sight to warrant the run. The present Morgan line service is not affected by this decision.

LOS ANGELES TICKET SALES SET NEW MARK.

Los Angeles is now among the five leading cities of the country in railroad ticket sales per month, according to a report showing that the total sales of the Los Angeles Consolidated ticket office in March were \$1,001,377. Of this amount \$219,852 were in Pullman sales. It is stated that during March the ticket sales here were only exceeded by three other cities of the country.—Los Angeles Times.

SUPPLY TRAIN FILM MUCH APPRECIATED.

The Southern Pacific Company's method of distributing supplies by means of supply trains has been adopted as the standard for railroads which are members of the American Railway Association. This action was taken at a convention of the association, purchases and stores section, held in Atlantic City June 14 to 16.

The showing of the Southern Pacific supply train moving picture by Mr. J. E. Peery, stores inspector, and a report by the Committee on Subject 16, supply train operation, Section 6, of which Mr. A. S. McKelligorn, general storekeeper, is chairman, combined to secure adoption of the Southern Pacific method.

More than 1000 delegates, representing most of the large railroads of the United States, were greatly interested in the supply train picture. A resolution adopted by the convention expressed appreciation for the very material benefit gained from the film.

At the close of the convention the supply train picture was shown in New York, Philadelphia and Cleveland to officials and employees of the New York Central lines, the Pennsylvania, the Erie, the Baltimore and Ohio and other roads. Vice-President W. A. Worthington, Mr. J. D. Isaacs, consulting engineer, and Mr. F. W. Mahl, director of purchases, were among the Southern Pacific officials from the New York office who saw the picture.

The Southern Pacific has received many requests from eastern railroad officials for copies of the film and during the next six months it will be exhibited for the benefit of thousands of railroad employees.

VALUE OF WORKING WITH THE FARMER.

The adoption of a policy of "service" and a willingness to do things "with" instead of "for" the farmer has brought to us a better understanding and a closer relationship with the problems of agricultural communities along our lines, and to these communities a realization that the railroad in the field of agriculture is not impersonal, but is a real constructive force seeking to play its proper part as a public service institution in the advancement of community progress.—F. S. Welsh, Manager of Agriculture and Stock Yards, New York Central Lines.

It is our duty to the country to facilitate and aid in the rehabilitation of the railroads. The individual part may be small, but the aggregate is large and the sooner each business man comes to the realization of this fact the better it will be for him and everybody else.—F. M. Fuller, before meeting of the Metal Branch of the National Hardware Association.

Box Car Situation Reviewed

Coast supply to be curtailed in near future warns K. M. Nicoles

The present freight car situation on the railroads of the United States is discussed in a report just issued by K. M. Nicoles, Chairman of the San Francisco Committee on Car Service. The interest and co-operation shown by shippers in the Bay District are appreciated by the members of the committee and attention is called to the necessity of keeping up the good work.

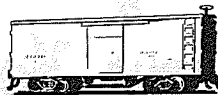
Says Mr. Nicoles:

"In the eastern part of the country the movement of coal shows improvement, while the movement of steel and steel mill products shows a decrease amounting to a congestion at mills in some sections, the scarcity of open top or coal carrying cars, together with the increased demand, being responsible for the situation. In the wheat growing sections the box car situation is very serious. Large quantities of last year's crop of wheat and other grains awaiting shipment fill the elevators and storage places and the new crop now about to be harvested shows in some places a large increase.

"In the Northwest—Minnesota, the Dakotas and Eastern Montana, where usually at this season are stored 15,000 to 18,000 box cars ready to move the crops, there is actually a car shortage, with elevators full of old grain. Minneapolis and St. Paul are particularly in bad shape, unable to get cars enough to keep elevators normally free.

"The Pacific Coast, and especially California, so dependent upon the steady movement of box cars from the East to handle its product, will in the near future find the supply being curtailed to a dangerous degree, and, to make the burden as light as possible, California shippers are again urged to take every possible means to conserve box cars. An immediate survey should be made by every business industry to see where and how cars may be saved by co-operation with one another and the carriers. Several well known methods are again suggested—double load, pool shipments, load to maximum capacity, load and unload promptly, keep in close touch with carriers' agents, report anticipated release of cars, order only when ready to load and only cars that are required from day to day, surrender bills of lading in advance of arrival of cars when possible and utilize drays and trucks for cross-town and nearby movements.

"All these concern the shipper and are offered in a spirit of helpful co-operation and efficiency. Make one car do the work of two and do it now."



Don't let the car loaf!

Load quickly.
Unload promptly.
And load to capacity.

Two tons more per loaded car will at once add 200,000 freight cars to those available for public use.

Good Railway Service Association of California

VICTORY MEDALS FOR ALL WHO SAW SERVICE.

It will interest the hundreds of Southern Pacific employees who saw service in the great war to know that every soldier, sailor and marine, enlisted or commissioned in the service of the United States during the war with Germany on active duty and with an honorable discharge and record will receive a "Victory medal" by general orders of the army and navy and acts of Congress.

The medal, as designed and issued to American veterans, is 36 millimeters in diameter and suspended from a section of rainbow ribbon of the same width and one and three-eighths inches long. The central and dominating feature is the figure of the "Goddess Victory," which appears on the obverse side on the back is the United States shield and the lettering: "The great war for civilization" and the names of the participating combatant nations who were allied with this country.

Applications for these medals will be received, approved or forwarded for approval by the commanding officer at each United States army post, camp or station or by the recruiting officer at each main recruiting station.

Chinese railroad firms are buying locomotives in large numbers according to a representative of the American Locomotive Company.—United States Bulletin.

THE MAIN THING IS SERVICE, NOT RATES.

By W. A. DAY
President of the Equitable Life Assurance Society of the United States

Transportation facilities stifle production and tends to perpetuate or increase the present high prices.

Senator Cummins says producers in the Middle West have informed the Senate Interstate Commerce Committee that the shortage of railroad cars is seriously curtailing the movement of perishable and semi-perishable products to market and that as a result curtailment of production is in sight.

The chairman of the commission, Mr. Clark, said to the Senate committee: "At the present time the cost of cars is nearly three times what it was in pre-war days, and the question is whether the money is coming from to pay for them . . . is yet to be answered."

Increased railroad efficiency depends upon new capital for locomotives, cars and improved facilities. On the present freight rates, earnings of the roads are totally insufficient to re-establish their credit and enable them to obtain new capital without paying prohibitive interest rates.

The nation's business demands adequate transportation; it can and will pay for such transportation an adequate rate.

Cheap transportation is a public benefit, but inadequate transportation, however low the rate, is not cheap. Recent embargoes and strike delays illustrate the high cost of inadequate transportation.

Congress has declared that railroad rates must be not only "just and reasonable," but also sufficient to provide a "fair return" upon the investment in the roads and to make possible the enlarging of railroad facilities, "in order to provide the people of the United States with adequate transportation."

The cost of maintaining and operating a railroad is now fully 100 per cent higher than just before the war. Railroad rates are less than 40 per cent higher.

Estimates of railroad earnings and expenses for 1920 recently submitted to the Interstate Commerce Commission show that present rates will net the railroads of the Western district a little more than 2 per cent, those of the Southern district less than three-fourths of 1 per cent and those of the Eastern district less than one-fifth of 1 per cent on their property investment.

Obviously the commission must increase these rates in order to comply with the act of Congress. Even when so increased, our freight rates will still be lower than in any country in the world.

Surplus ink on hand in bottles should be kept corked to avoid evaporation and keep free from dust and dirt. Ink used should be kept covered when not in use and should by all means be covered at quitting time.

The Freight Charge on your Hat

It costs $4\frac{2}{3}$ Cents to ship
a man's hat from
New York to Oakland.

An increase of 25 per cent in freight
rates will add less than $1\frac{1}{5}$ Cents
to the cost of each hat.

Californians are willing to
pay a rate necessary for
a reasonable return on the
money invested to secure
good railway service.